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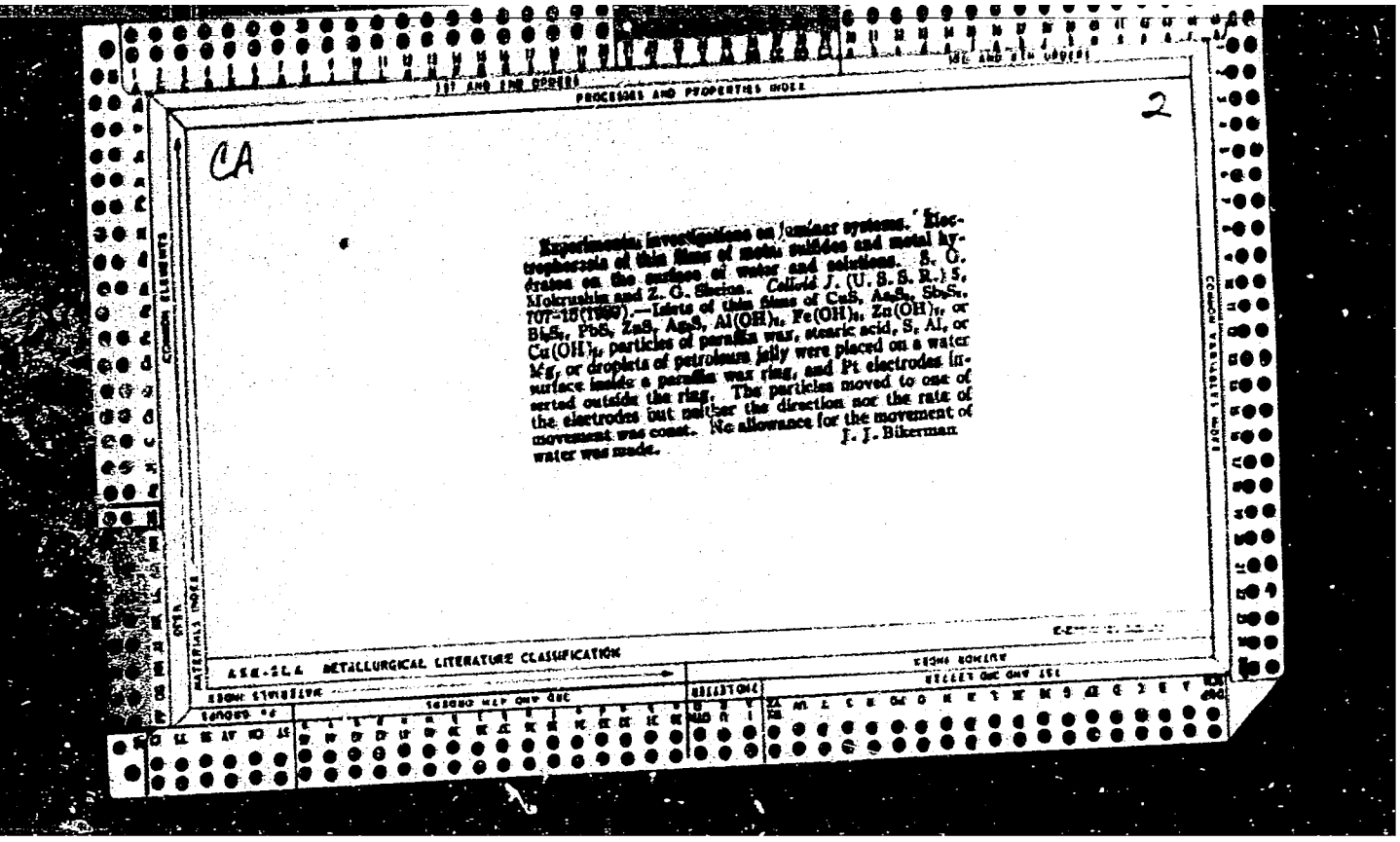

CA

2

Experiments investigations on laminar systems. Electrophoresis of thin films of metal sulfides and metal hydroxides on the surface of water and solutions. S. G. Mokrushin and Z. G. Slesina. *Colloid J. (U. S. S. R.)* 5, 707–15 (1939).—Films of thin films of CuS, As_2S_3, Sb_2S_3, Bi_2S_3, PbS, ZnS, Ag_2S, $Al(OH)_3$, $Fe(OH)_3$, $Zn(OH)_2$, or $Cu(OH)_2$, particles of paraffin wax, stearic acid, S, Al, or Mg, or droplets of petroleum jelly were placed on a water surface inside a paraffin wax ring, and Pt electrodes inserted outside the ring. The particles moved to one of the electrodes but neither the direction nor the rate of movement was const. No allowance for the movement of water was made.

J. J. Bikerman

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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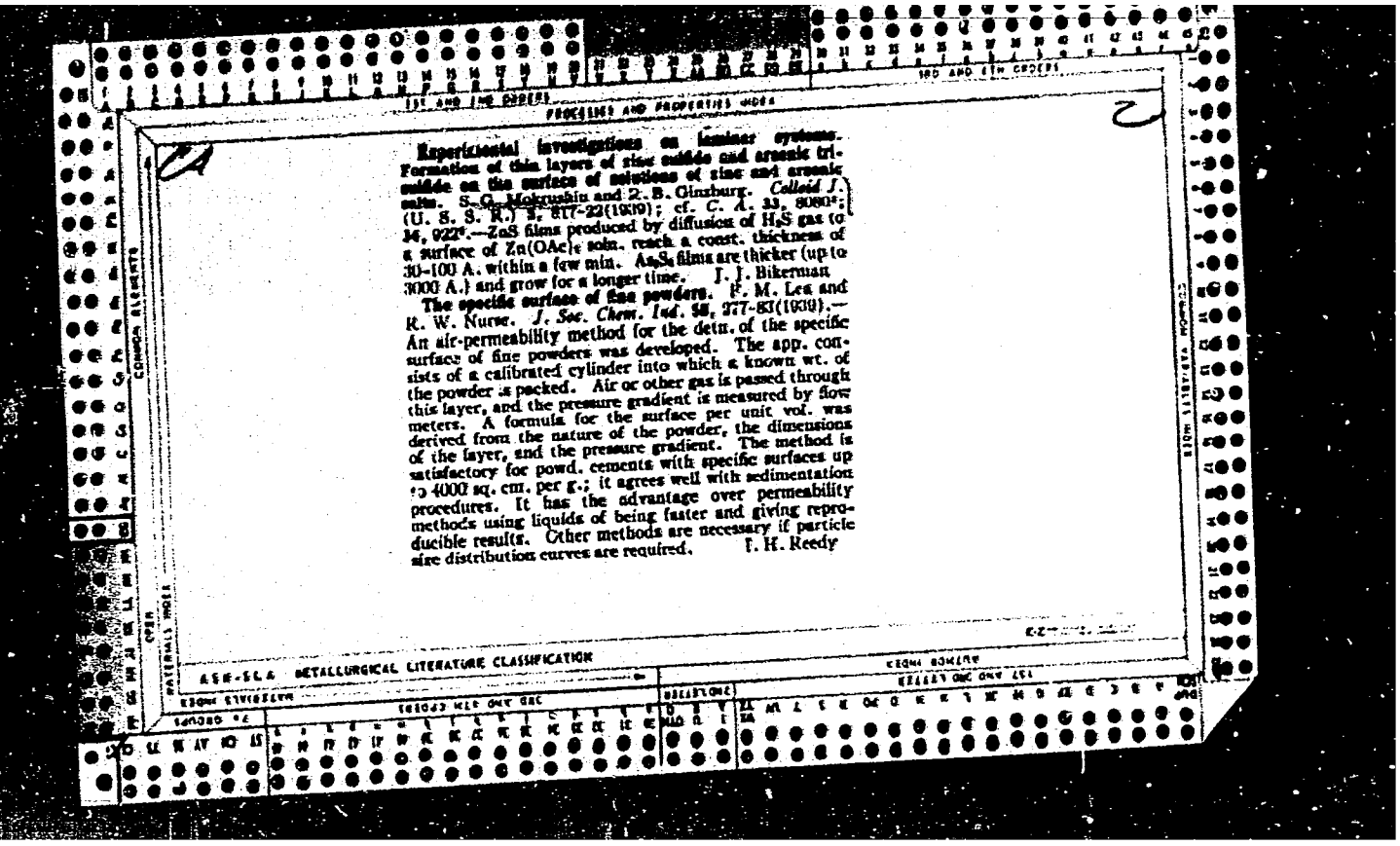

Experimental investigations on laminar systems. Formation of thin layers of zinc sulfide and arsenic trisulfide on the surface of solutions of zinc and arsenic salts. S. G. Mokrushin and Z. B. Ginzburg. *Colloid J. (U. S. S. R.)* 1, 817-22(1939); cf. *C. A.* 33, 8080⁸; 34, 922⁸.—ZnS films produced by diffusion of H_2S gas (a surface of $Zn(OAc)_2$ soln. reach a const. thickness of 30–100 A. within a few min. As_2S_3 films are thicker (up to 3000 A.) and grow for a longer time. J. J. Bikerman

The specific surface of fine powders. F. M. Lea and R. W. Nurse. *J. Soc. Chem. Ind.* 58, 277-83(1939).—An air-permeability method for the detn. of the specific surface of fine powders was developed. The app. consists of a calibrated cylinder into which a known wt. of the powder is packed. Air or other gas is passed through this layer, and the pressure gradient is measured by flow meters. A formula for the surface per unit vol. was derived from the nature of the powder, the dimensions of the layer, and the pressure gradient. The method is satisfactory for powd. cements with specific surfaces up to 4000 sq. cm. per g.; it agrees well with sedimentation procedures. It has the advantage over permeability methods using liquids of being faster and giving reproducible results. Other methods are necessary if particle size distribution curves are required. F. H. Reedy

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2

Experimental investigation of laminar systems. XIV. The mechanism of the process of formation of thin films of copper sulfide on the surface of solutions. [illegible] Mokrushin, N. A. Korheurov and I. A. Blyum. *Colloid J.* (U. S. S. R.) 6, 119-27(1940); cf. *C. A.* 34, [illegible] The films of copper sulfide [illegible] a result of [illegible] of colloidal particles existing on the surface of the layer. The rate of growth was conditioned by the rate of diffusion of H_2S through the surface of the soln., which contained no colloidal particles. That [illegible] films are network structures was demonstrated by an observation of voluntary contraction of the films and by quant. investigation by means of the Marselen app. A. A. Podgorny

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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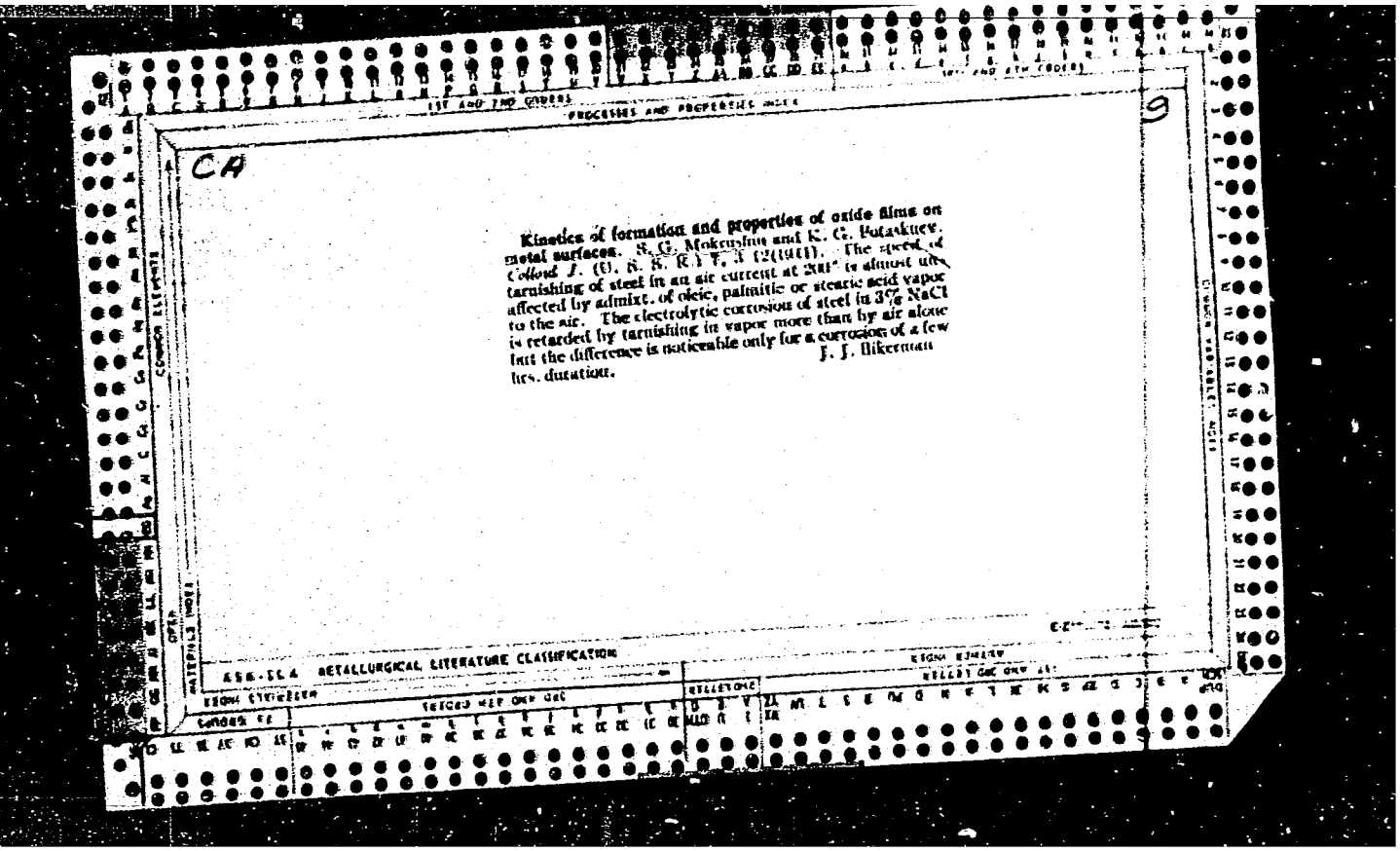

CA

Kinetics of formation and properties of oxide films on metal surfaces. S. G. Makrushin and K. G. Butakuev. *Colloid J.* (U. S. S. R.) **7**, 3 12(1941). The speed of tarnishing of steel in an air current at 20° is almost unaffected by admixt. of oleic, palmitic or stearic acid vapor to the air. The electrolytic corrosion of steel in 3% NaCl is retarded by tarnishing in vapor more than by air alone but the difference is noticeable only for a corrosion of a few hrs. duration.
F. J. Ilikerman

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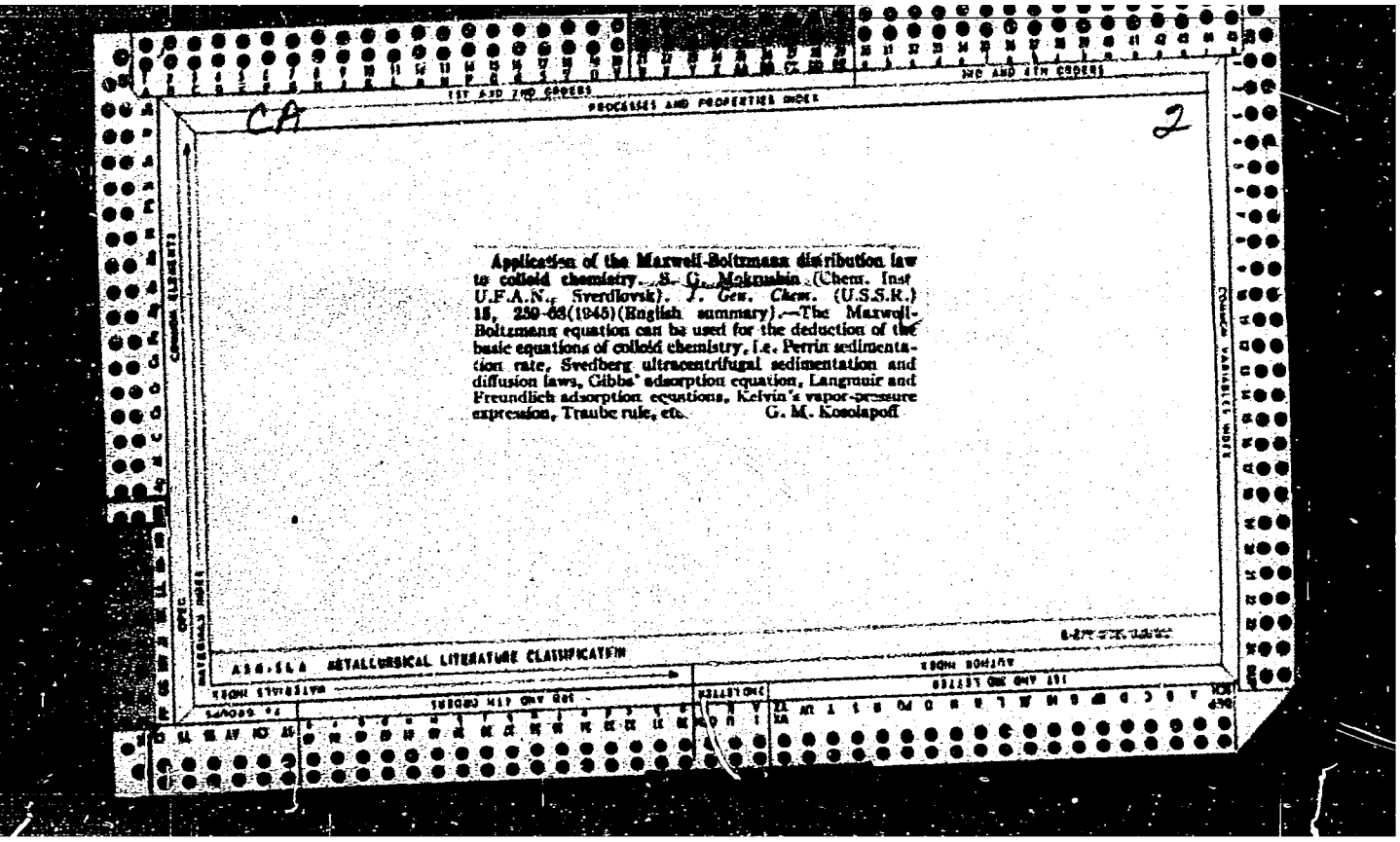

CA 2

Application of the Maxwell-Boltzmann distribution law to colloid chemistry. S. G. Mokrushin (Chem. Inst. U.F.A.N., Sverdlovsk). *J. Gen. Chem.* (U.S.S.R.) **15**, 259–68(1945)(English summary).—The Maxwell-Boltzmann equation can be used for the deduction of the basic equations of colloid chemistry, i.e. Perrin sedimentation rate, Svedberg ultracentrifugal sedimentation and diffusion laws, Gibbs' adsorption equation, Langmuir and Freundlich adsorption equations, Kelvin's vapor-pressure expression, Traube rule, etc. G. M. Kosolapoff

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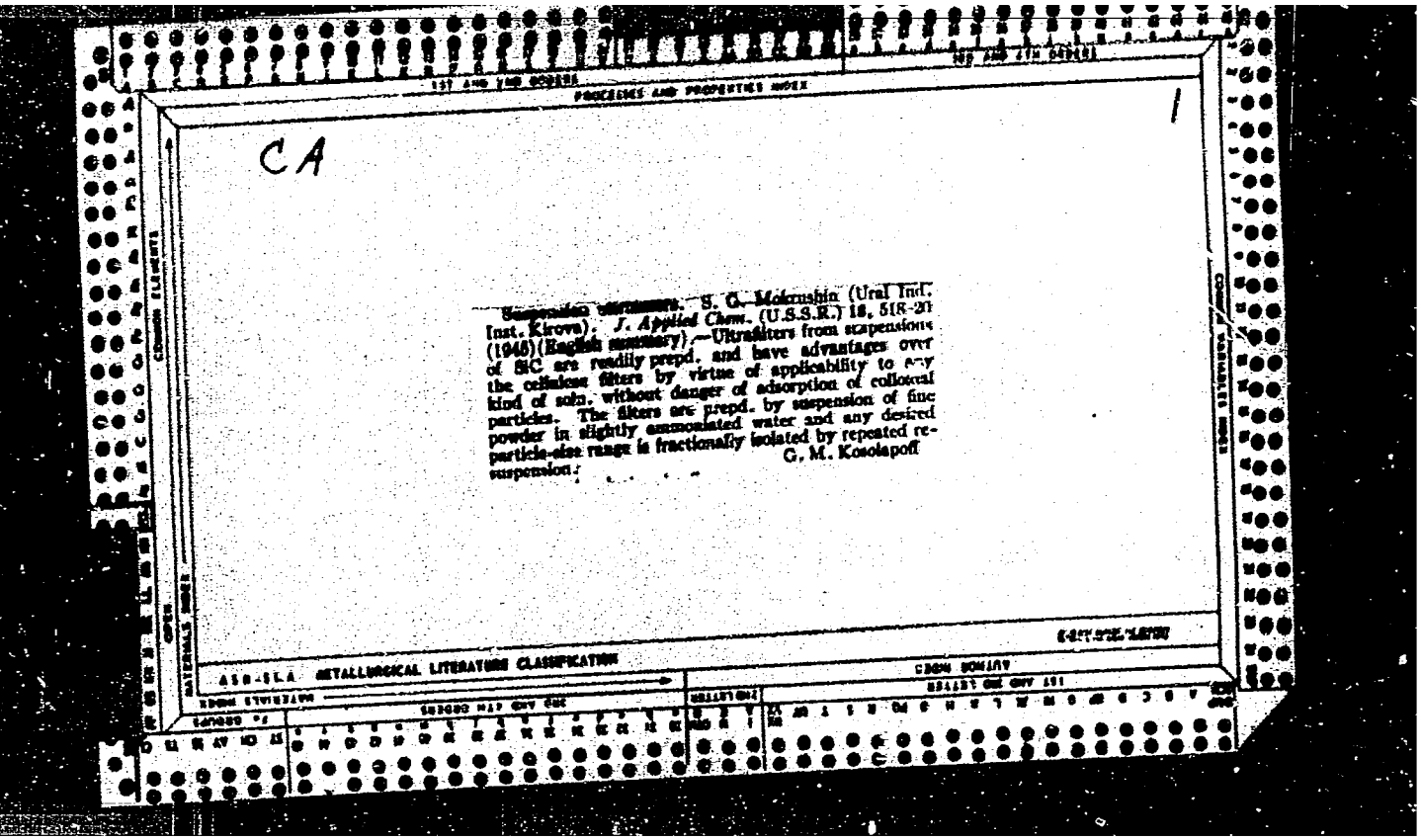

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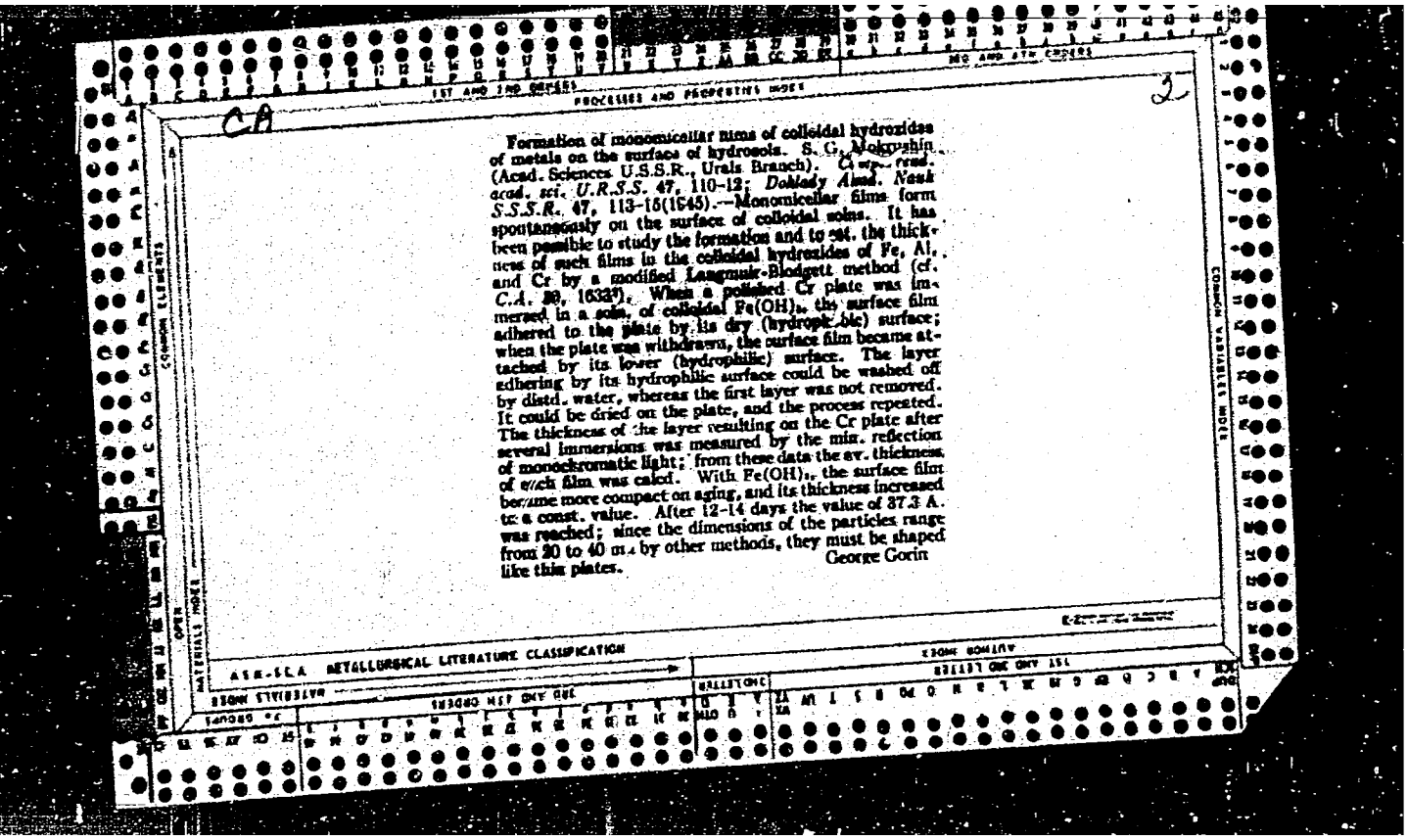

CA

Formation of monomicellar films of colloidal hydroxides of metals on the surface of hydrosols. S. G. Mokrushin. (Acad. Sciences U.S.S.R., Urals Branch). *Compt. rend. acad. sci. U.R.S.S.* 47, 110-12; *Doklady Akad. Nauk S.S.S.R.* 47, 113-16(1945).—Monomicellar films form spontaneously on the surface of colloidal soins. It has been possible to study the formation and to est. the thickness of such films in the colloidal hydroxides of Fe, Al, and Cr by a modified Langmuir-Blodgett method (cf. *C.A.* 39, 1633⁹). When a polished Cr plate was immersed in a soln. of colloidal $Fe(OH)_3$ the surface film adhered to the plate by its dry (hydrophobic) surface; when the plate was withdrawn, the surface film became attached by its lower (hydrophilic) surface. The layer adhering by its hydrophilic surface could be washed off by distd. water, whereas the first layer was not removed. It could be dried on the plate, and the process repeated. The thickness of the layer resulting on the Cr plate after several immersions was measured by the min. reflection of monochromatic light; from these data the av. thickness of each film was calcd. With $Fe(OH)_3$ the surface film became more compact on aging, and its thickness increased to a const. value. After 12-14 days the value of 37.3 A. was reached; since the dimensions of the particles range from 20 to 40 mμ by other methods, they must be shaped like thin plates.

George Gorin

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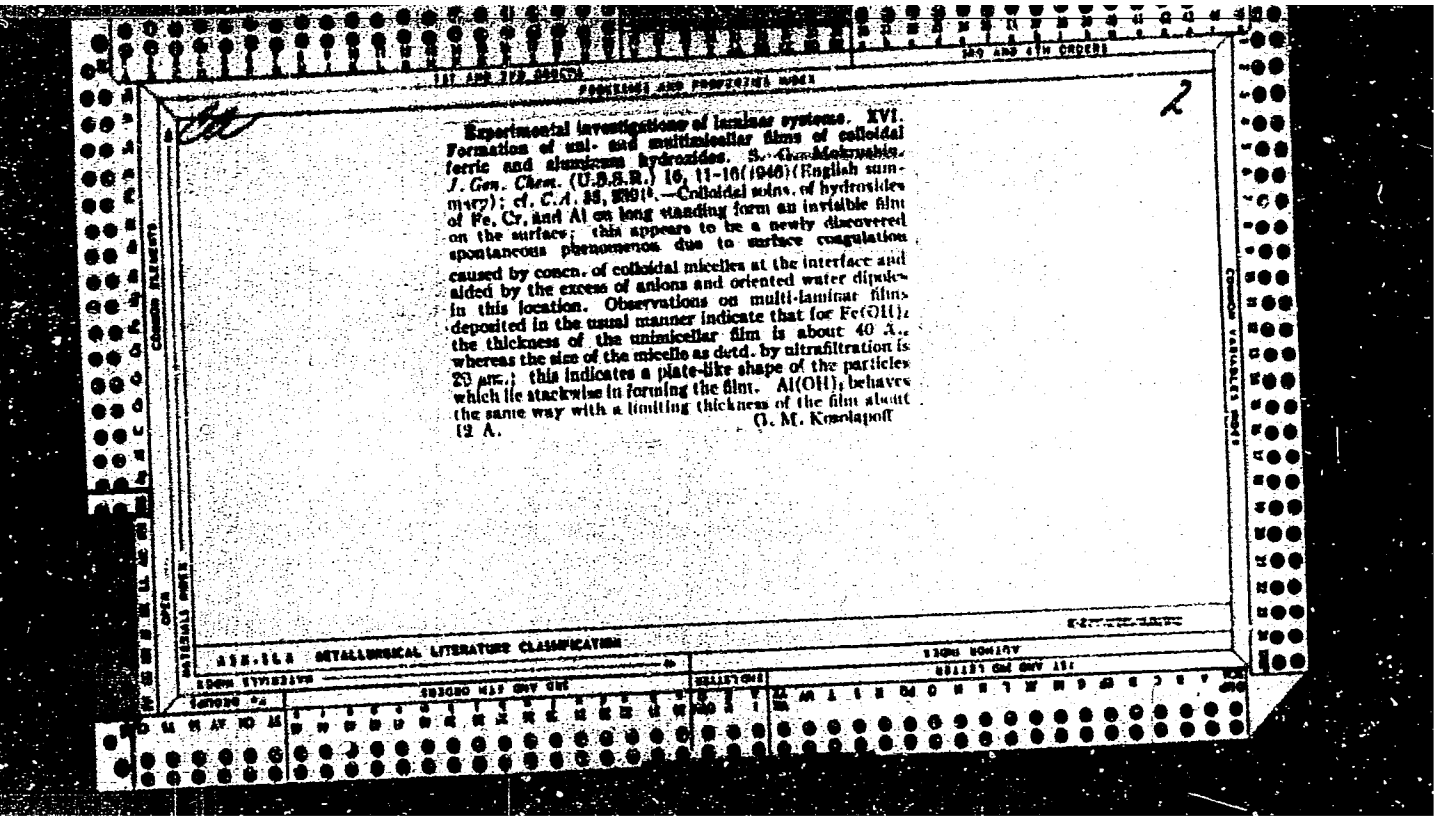

Experimental investigations of laminar systems. XVI. Formation of uni- and multimicellar films of colloidal ferric and aluminum hydroxides. S. Chaldakyan. *J. Gen. Chem.* (U.S.S.R.) 16, 11-16(1946)(English summary); cf. *C.A.* 35, 2991¹. —Colloidal solns. of hydroxides of Fe, Cr, and Al on long standing form an invisible film on the surface; this appears to be a newly discovered spontaneous phenomenon due to surface coagulation caused by concn. of colloidal micelles at the interface and aided by the excess of anions and oriented water dipoles in this location. Observations on multi-laminar films deposited in the usual manner indicate that for $Fe(OH)_3$ the thickness of the unimicellar film is about 40 A., whereas the size of the micelle as detd. by ultrafiltration is 20 mμ.; this indicates a plate-like shape of the particles which lie stackwise in forming the film. $Al(OH)_3$ behaves the same way with a limiting thickness of the film about 12 A. O. M. Kvasnitzoff

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USSR/Chemistry - Systems
Chemistry - Thixotropy

Mar 1947

"An Experimental Study of Laminar Systems," S. G. Mokrushin, Laboratory of Colloidal Chemistry, Ural Industrial Institute imeni S. M. Kirov, Sverdlovsk, 4½ pp

PA 34T7

"Kolloidnyy Zhurnal" Vol IX, No 3

This is the seventeenth article on this subject and discusses the thixotropy of suspensions of dismembered films of the sulphides and hydroxides of metals. Describes experiments which he conducted to determine the possibility of giving a thixotropic state to suspensions of disintegrated thin films of sulphides and hydroxides of metals which are obtained from the sur-

34T7

LC

USSR/Chemistry - Systems (Contd)

Mar 1947

face of solutions. It was discovered that dispersed films of lead and copper sulphides, as well as iron and chrome hydroxides, when dispersed to 5 - 10° result in thixotropic pastes. The time required for cooling is greatly dependent on the amount of liquid added, and the presence of electrolytes.

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MOKRUSHIN, S. G.

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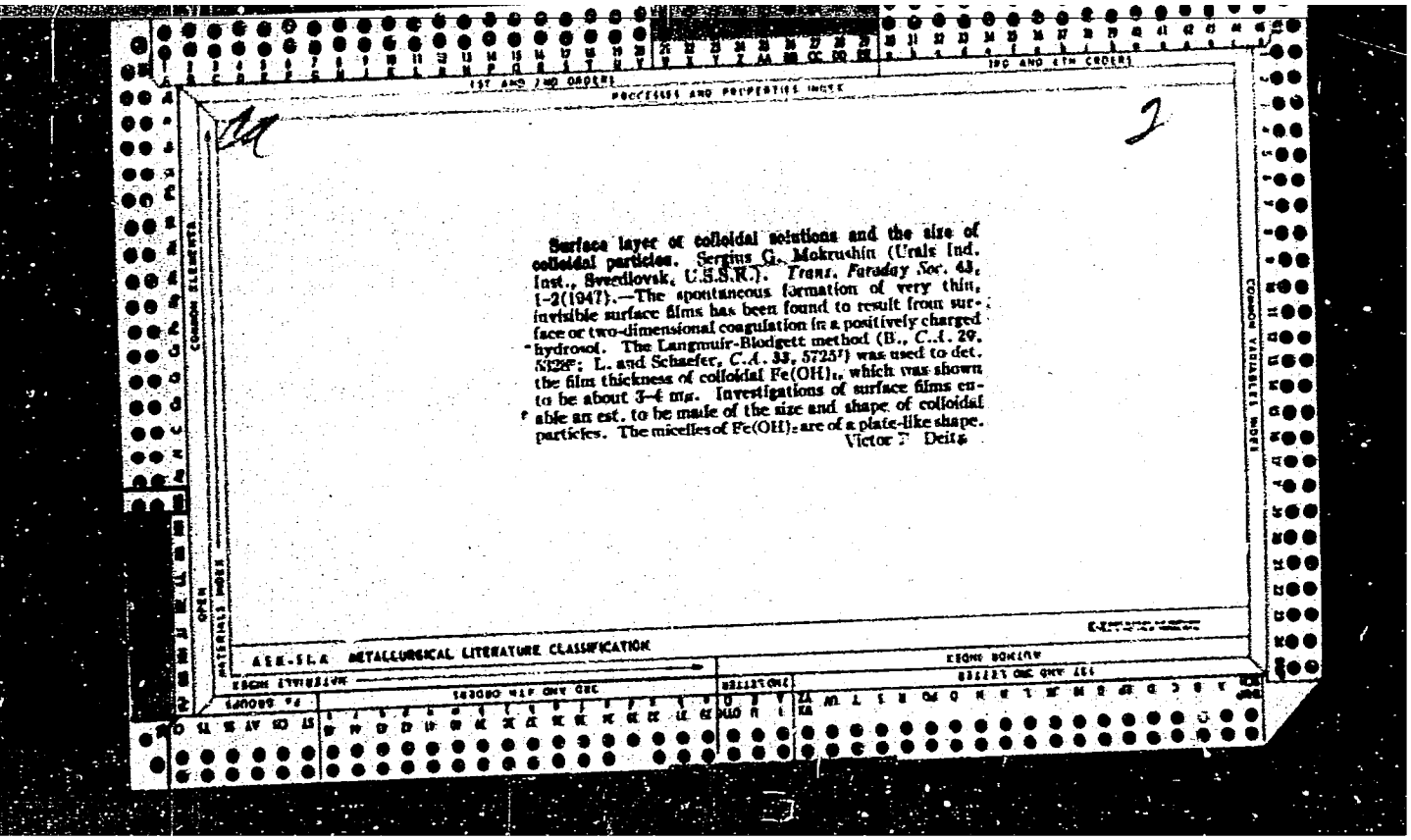

Surface layer of colloidal solutions and the size of colloidal particles. Sergius G. Mokrushin (Urals Ind. Inst., Sverdlovsk, U.S.S.R.). *Trans. Faraday Soc.* 43, 1-2(1947).—The spontaneous formation of very thin, invisible surface films has been found to result from surface or two-dimensional coagulation in a positively charged hydrosol. The Langmuir-Blodgett method (B., *C.A.* 29, 5128[8]; L. and Schaefer, *C.A.* 33, 5725[7]) was used to det. the film thickness of colloidal $Fe(OH)_3$, which was shown to be about 3–4 mμ. Investigations of surface films enable an est. to be made of the size and shape of colloidal particles. The micelles of $Fe(OH)_3$ are of a plate-like shape.
Victor [illegible] Deitz

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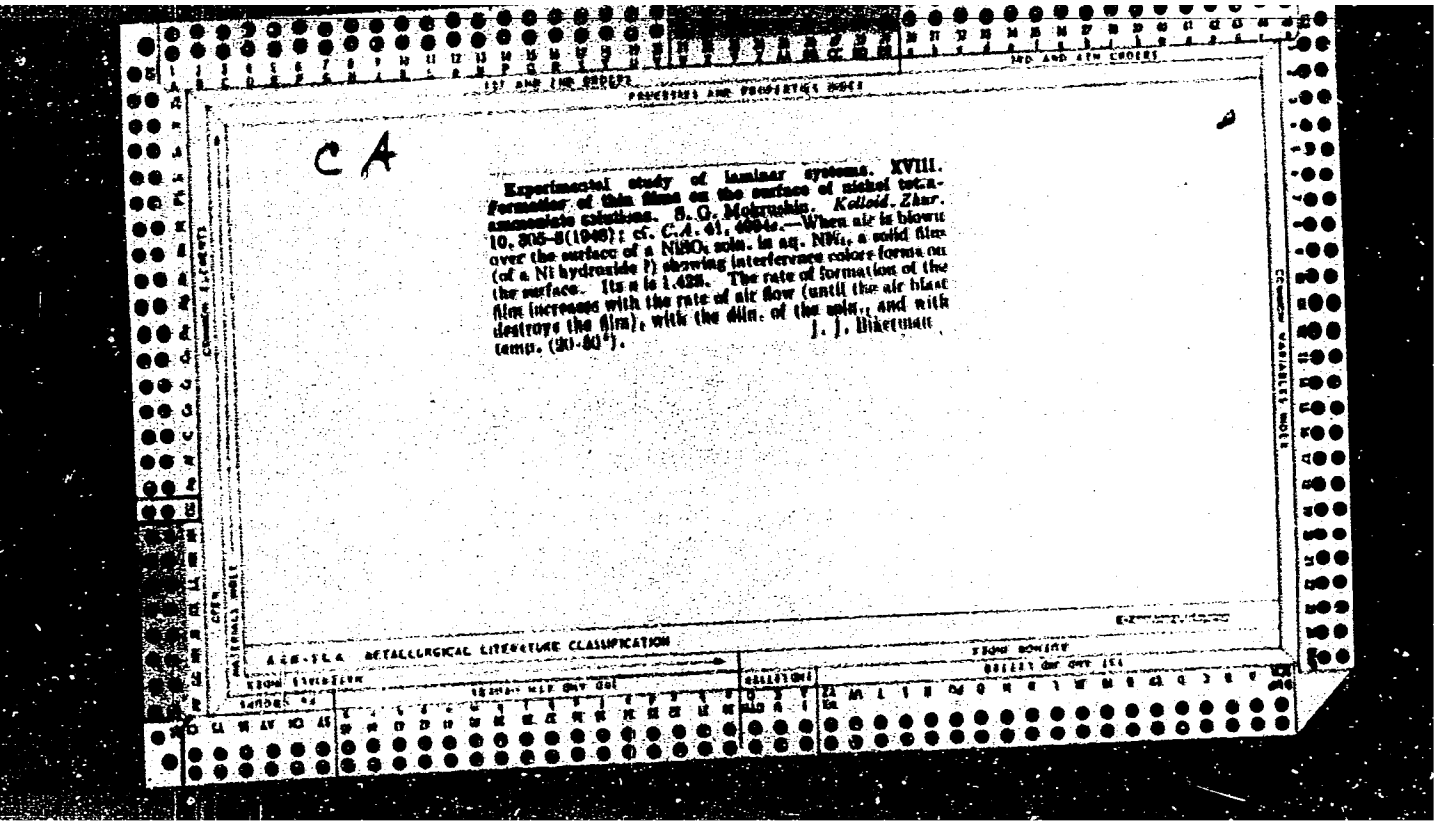

CA

Experimental study of laminar systems. XVIII. Formation of thin films on the surface of nickel tetramminate solutions. S. G. Mokrushin. *Kolloid. Zhur.* 10, 305-8(1948); cf. *C.A.* 41, 4004e.—When air is blown over the surface of a $NiSO_4$ soln. in aq. NH_3, a solid film (of a Ni hydroxide ?) showing interference colors forms on the surface. Its n is 1.428. The rate of formation of the film increases with the rate of air flow (until the air blast destroys the film), with the dilu. of the soln., and with temp. (20-60°). J. J. Bikerman

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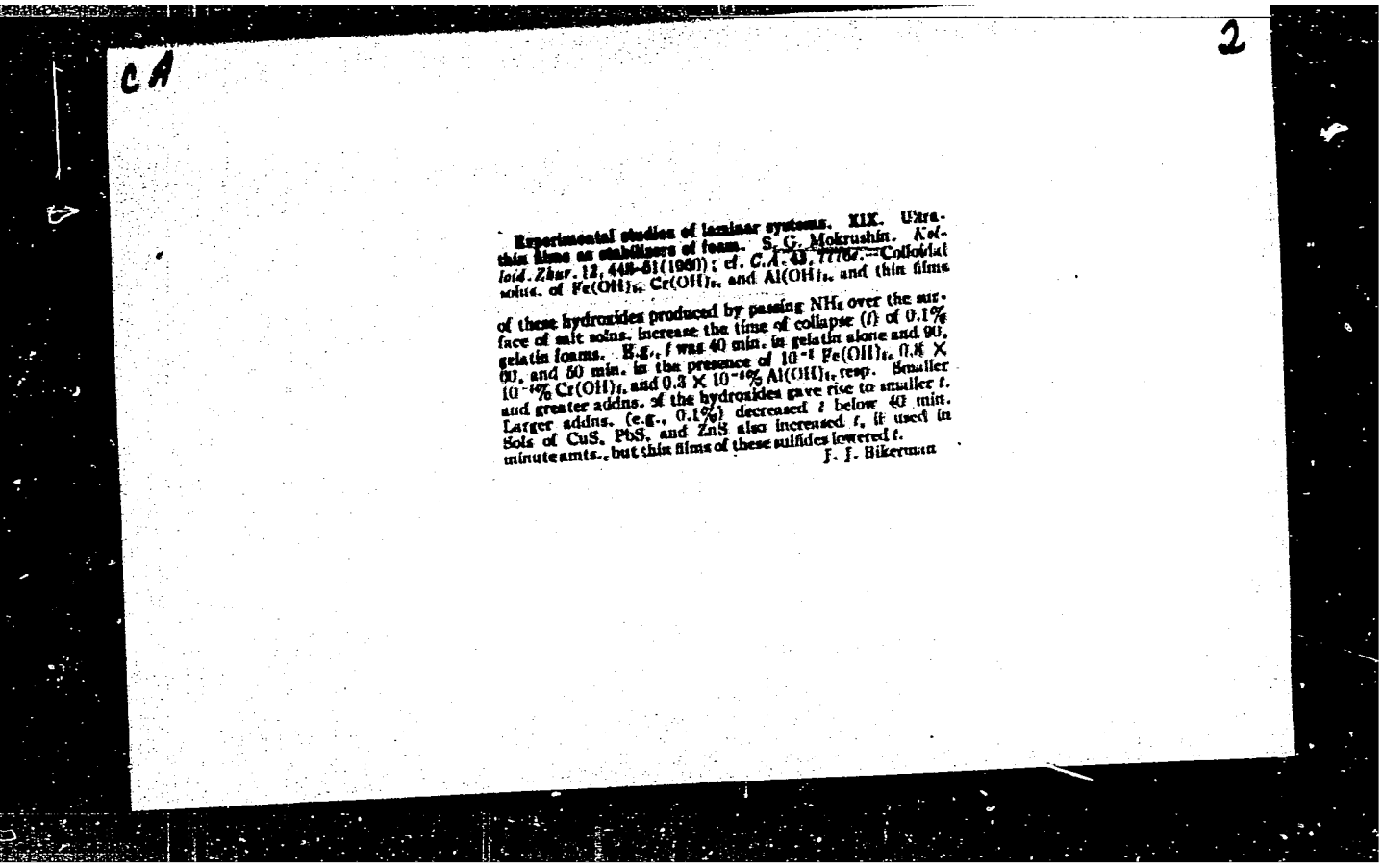

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2

Experimental studies of laminar systems. XIX. Ultra-thin films as stabilizers of foam. S. G. Mokrushin. *Kolloid. Zhur.* 12, 443-51(1950); cf. *C.A.* 43, 7116d.—Colloidal solns. of $Fe(OH)_3$, $Cr(OH)_3$, and $Al(OH)_3$, and thin films of these hydroxides produced by passing NH_3 over the surface of salt solns. increase the time of collapse (t) of 0.1% gelatin foams. E.g., t was 40 min. in gelatin alone and 90, 90, and 50 min. in the presence of 10^{-4} $Fe(OH)_3$, 0.8×10^{-4}% $Cr(OH)_3$, and 0.3×10^{-4}% $Al(OH)_3$, resp. Smaller and greater addns. of the hydroxides gave rise to smaller t. Larger addns. (e.g., 0.1%) decreased t below 40 min. Sols of CuS, PbS, and ZnS also increased t, if used in minute amts., but thin films of these sulfides lowered t.

J. J. Bikerman

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USSR/Emulsifying Agents Apr 1947
Chemistry - Emulsions

"Experimental Study of Laminar Systems, XV. Thin Films of Sulfides of Metals as Emulsifiers," S. G. Mokrooshin, Z. G. Sheina, Laboratory of Colloidal Chemistry of the Urals State University imeni A. M. Gor'kiy, Sverdlovsk, 5 pp

PA 17T82

"Kolloidnyy Zhurnal" Vol IX, No 4

Brief discussion with three tables of chemical analysis showing that dispersed films of sulfides of copper, lead, and zinc can serve as good emulsifiers for emulsions of the type V/M and,

17T82

USSR/Emulsifying Agents (Contd) Apr 1947
Chemistry - Emulsions

with the addition of alkali, for emulsions of the type M/V. Submitted 4 Jan 1947.

Laboratory worker L. V. Zykov and graduate students F. A. Gorniykh and Ye. P. Berezina assisted in the experiments.

17T82

MOKROOSHIN S. G.

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Mokrushin, S.G.

DEMENEV, N.V.; MOKRUSHIN, S.G., doktor khim. nauk, otvetstvennyy red.

[Surface metal sols and jels] Poverkhnostnye zoli i geli metallov. Sverdlovsk, Izd-vo Ural'skogo fil. akad. nauk SSSR. 1948. 59 p. (Akademiia nauk SSSR. Ural'skii filial. Sverdlovsk. Institut khimii i metallurgii. Trudy, no.1). (MIRA 11:4)
(Metallography) (Surface chemistry) (Colloids)

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MOKRUSHIN S. ?.

FA 170T11

USSR/Chemistry - Surface Phenomena Nov/Dec 50

"Experimental Investigations of Laminar Systems: XIX. Ultrathin Layers as Foam Stabilizers," S. G. Mokrushin, Ural Polytech Inst imeni S. M. Kirov, Lab of Colloid Chem

"Kolloid Zhur" Vol XII, No 6, pp 448-451

Foam of aqueous gelatin solutions was stabilized with dispersed films and hydrosols of Fe, Cr, and Al hydroxides, and hydrosols of Cu, Pb, and Zn sulfides. Low stabilizer concentrations provided maximum stabilization. Metal sulfide films lowered foam stability as

USSR/Chemistry - Surface Phenomena (Contd) Nov/Dec 50

concentration of suspended matter was increased. Proposes mechanism of stabilizing action of dispersed films and hydrosols of metal hydroxides; and probable explanation for reverse action of dispersed films of metal sulfides.

170T11

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USSR/Chemistry - Physical Aug 51

"Surface Energy of Molecules and Their Physico-chemical Properties. VI. Diameter of Molecules, Surface Energy, and the Constant a From van der Waals' Equation," S. G. Mokrushin, Lab of Phys and Colloid Chem, Ural Polytech Inst imeni S. M. Kirov

"Zhur Obshch Khim" Vol XXI, No 8, pp 1405-1408

Calcd mol diams of certain gases and liquids on basis of assumptions that: (1) mol has surface energy equal to free surface energy of liquid; (2) evapn of mols is equiv to dispersion of liquid; (3) work required for dispersion equal to

188T11

188T11

USSR/Chemistry - Physical (Contd) Aug 51

energy expended against cohesion forces; (4) cohesion forces equal to value of int pressure from van der Waals' eq. Explains discrepancy between values calcd by this method and by int friction in gases.

188T11

MOKRUSHIN, S. G.

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CA

Sulfides of copper, lead, and zinc as solid emulsifiers. S. G. Mokrushin and T. P. Avilova. *Kolloid. Zhur.* 14, [1952].—CuS, PbS, and ZnS, prepd. by bubbling H_2S through satd. solns. of $CuSO_4$, $Pb(OAc)_2$, and $ZnSO_4$, resp., are good emulsifiers for toluene-water emulsions. When equal vols. of the two liquids are taken, ZnS stabilizes the oil-in-water emulsion, whereas CuS and PbS make that liquid the continuous phase which wetted them first. The most frequent particle diam. was [illegible] μ for all emulsions independently of the durations of the preliminary and main shakings. Presumably this diam. is detd. by the most frequent particle size of the sulfide, which was 3–7 μ for CuS and PbS and 0.5–3 μ for ZnS. It is supposed that the wt. of the sulfides is compensated by a layer of toluene around their particles. Hence, $(D - d)k =$ $(d - d_1)k_1$; D, d, and d_1 are the d. of sulfide, water, and toluene, resp.; k and k_1 are the thicknesses of the sulfide and the toluene layers, resp. For CuS k_1 was 0.16 μ, and for PbS 6 μ.

J. J. Bikerman

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

USSR/Chemistry - Emulsions Mar/Apr 52

"Copper, Lead, and Zinc Sulfides as Solid Emulsifiers," S. G. Mokrushin, T. P. Avilova, Ural State U imeni Gor'kiy

"Kolloid Zhur" Vol XIV, No 2, pp 103-106

Proved that powders capable of forming structures and restoring disturbed continuity can be good "armoring" emulsifiers, i.e., those which can go over into the boundary of the phases and form a protective layer (cf. Clayton). Within a certain range of wetting capacity, a substance without

216T12

addn of electrolyte can stabilize both straight and reversed emulsions, depending on the order of wetting by the liquids. Detd the thickness of the protective layer on the boundary solid sulfide film liquid, and studied the effect of time of dispersion and of preliminary stirring on the deg of dispersion of the emulsion. The position of the max on the curve of particle distribution of the emulsion according to size is const. This can be explained by a connection between the dimensions of the drops of emulsion and the particles of the powder stabilizing them, whose deg of dispersion changes little during the time of emulsification.

216T12

MOKRUSHIN, S. G.

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S. G.

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
General and Physical Chemistry

Builders of copper, lead, and zinc as solid emulsifiers. B. G. Mokrushin and T. P. Avilova. *Colloid J. (U.S.S.R.)* 15, 115–17 (1953) (Engl. translation).—See *C.A.* 46, 5930*i*. H. L. H.

Chem

9-2-54

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MOKRUSHIN, S. G.

(2)

Membrane ultra- and polyultrafilters. S. G. Mokrushin and V. I. Borisikhina. *Zhur. Priklad. Khim.* 25, 1182–6 (1952).—The basic material for these membranes was obtained from cellulose nitrate films heated in slightly alk. H_2O at 85–90° and, finally, digested in 96% alc. The best membranes were obtained from 5–6% solns. of the treated film in cold AcOH; 8–10% solns. gave coarse, thick membranes; 1–2% thin and weak. Of 6 mono alcs., the best were iso-Bu and acetyl; of 3 esters the best was di-Et ester of malonic acid, $CH_2(COOC_2H_5)_2$. Membranes were prepd. on filter paper and on cloth. A wide range of properties could be obtained by varying the proportions of the several additives. I. Bencowitz

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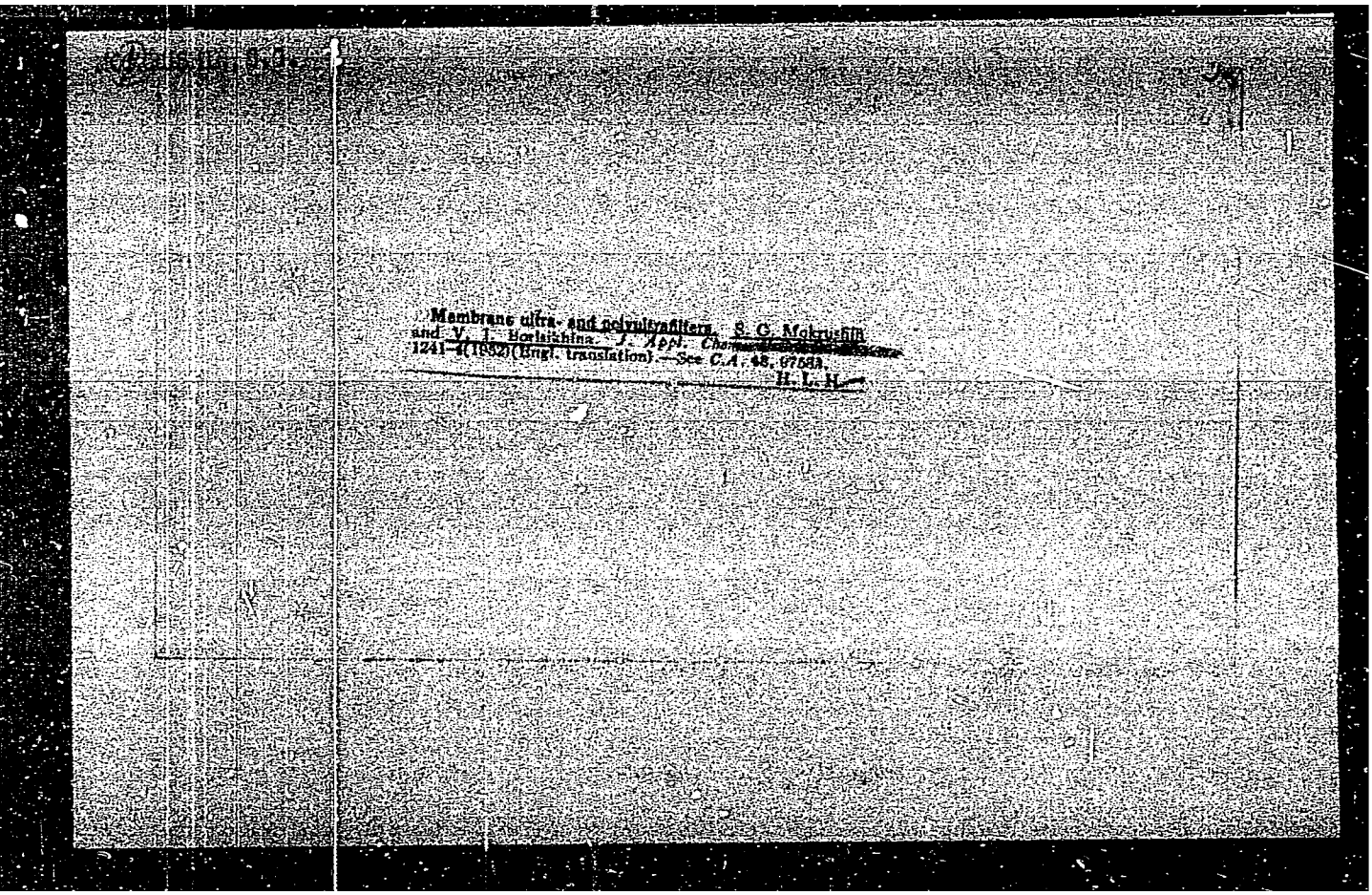

Membrane ultra- and polyultrafilters. S. G. Makrushin and V. I. Berlishina. *J. Appl. Chem.* 1241–4(1952)(Engl. translation).—See *C.A.* 48, 6758h.
H. L. H.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

Mokrushin, S. G.

Froth chromatography of colloids. S. G. Mokrushin. *Soobshcheniya Nauch. Rabot. Vsesoyuz. Khim. Obshchestva im. Mendeleeva* 1953, No. 2, 26-7; *Referat. Zhur., Khim.* 1954, No. 30100.—Colloidal Au, Ag, Sb, As, and Hg; Fe hydroxides; Sb, Cu, and Cd sulfides; AgI, Berlin blue, crystal violet, and Congo red pass entirely from aq. suspensions contg. gelatin into the foam. Thus colloidal $Fe(OH)_3$ can be readily sepd. from dissolved methylene blue and colloidal Ag, Au, Hg, and Sb and Cu sulfides from solns. of Co and Ni sulfates. M. Hosch

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S.G.; AVILOVA, T.P.

Sulfides of copper, lead, and zinc as solid emulsifiers. Kolloid. Zhur. 15, 208-11 '53. (MLRA 6:5)
(CA 47 no.18:9103 '53)

1. A.M.Gor'kiy State Univ., Sverdlovsk.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S.G.; MILYUTINA, M.I.

Experimental study of laminary systems. XX. The spontaneous formation of unimicellar layers of colloidal ferric hydroxide on the surface of colloidal solutions. Kolloid. Zhur. 15, 212-15 '53. (MLRA 6:5)
(CA 47 no.18:9105 '53)

1. Ural Polytech. Inst., Sverdlovsk.

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MAKRUSHIN, G. S.

✓ Experimental study of lamellary systems. XX. The spontaneous formation of unimolecular layers of colloidal ferric hydroxide on the surface of colloidal solutions. S. G. Mokrushin and M. I. Milyutina. *Colloid J. U.S.S.R.* 15, [illegible] (1953)(Engl. translation). See *C.A.* 47, 9105b.

H. L. H.

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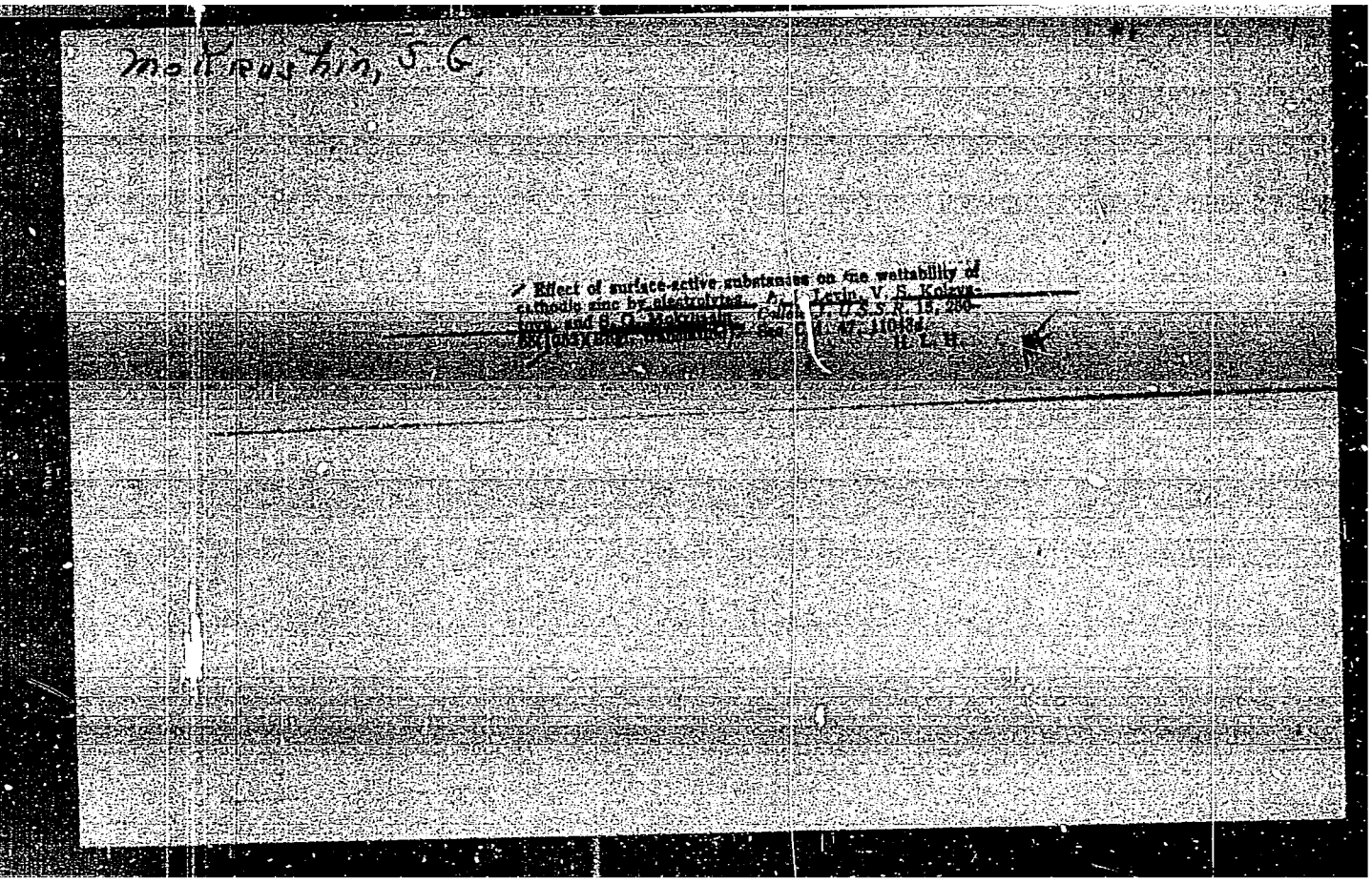

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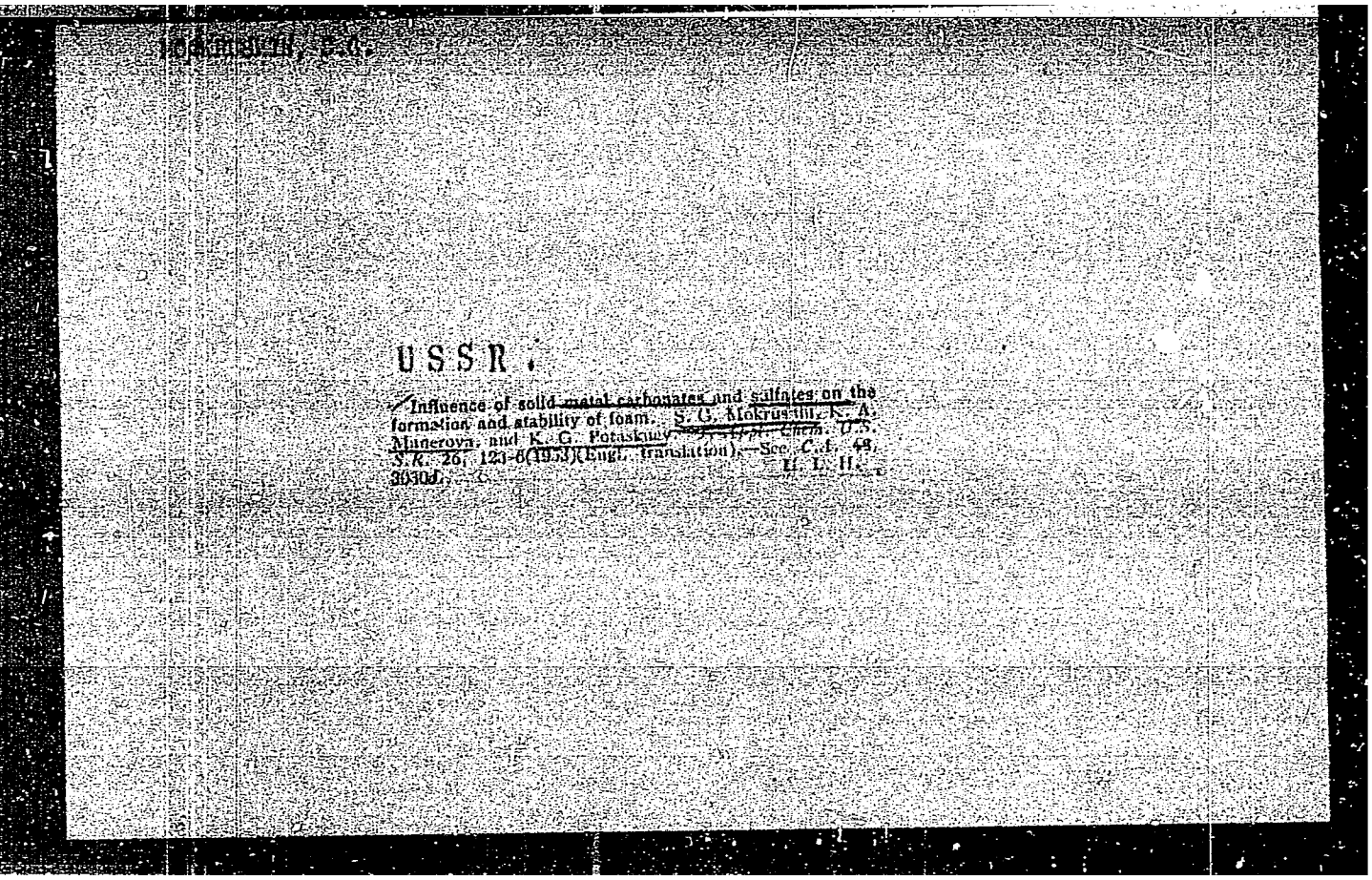

USSR

Influence of solid metal carbonates and sulfates on the formation and stability of foam. S. G. Mokrushin, K. A. Munerova, and K. G. Potashnyy. Zh. fiz. khim. U.S.S.R. 26, 123-6(1953)(Engl. translation).—See C.A. 49, 3030d. U. L. H.

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MURRUSHIN S. G.

Chemical Abstracts
Vol. 48 No. 5
Mar. 10, 1954
Explosive and Explosions

Influence of solid colloidal metal carbonates and sulfat on the formation and stability of foam. S. G. Murzushin, K. A. Manerova, and K. G. Potesknev. Zhur. Prikl. Khim. 26, 143-7(1953).—The addn. of colloidal $CaCO_3$, $MgCO_3$, and $CaSO_4$ as well as solns. of $Al_2(SO_4)_3$ and colloidal $Fe(OH)_3$ was found to stabilize foam (for fire extinguishers). Stability (min.) *vs.* wt. % of added stabilizer rises, passes through a max., and declines. The rate of foam collapse with $MgCO_3$ and $Al_2(SO_4)_3$ decreases and becomes linear as the wt. % of added powder increases. This is very pronounced with $Al_2(SO_4)_3$. I. Bencowitz

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

LEVIN, A.I., professor, doktor tekhnicheskikh nauk; POMOSOV, A.V.; KOLEVATOVA, V.S.; GUREVICH, I.Ye.; UKSHE, Ye.A.; ROGATKINA, N.T.; MOKRUSHIN, S.G., professor, doktor tekhnicheskikh nauk, retsenzent.

Corrosion and metal cladding. Sbor.st.Ural. politekh.inst. no.43:3-174 '53. (MIRA 8:1)
(Corrosion and anticorrosives) (Metal cladding)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S.G.; AVILOVA, T.P.

Copper, lead, and zinc sulfides as solid emulsifiers. Koll.zhur. 16 no.1:44-50 Ja-F '54. (MLRA 7:1)

1. Ural'skiy gosudarstvennyy universitet im. A.M.Gor'kogo, Sverdlovsk. (Sulfides) (Emulsions)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MAKRUSHIN, S. G.

USSR.

Experimental study of laminar systems. XXI. Effect of electrolytes on the formation of ultrafine films on the surface of colloidal solutions of titanium and thorium hydroxides. S. G. Makrushin and Z. G. Sheina. *Colloid J.* (U.S.S.R.) 16, 301–3 (1954) (Engl. translation).—See *C.A.* 49, 2815i. H. L. H.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S.G.; SHEYNA, Z.G.

Experimental studies of laminar systems. Part 21. Effect of electrolytes on the formation of ultrathin films on the surface of colloidal solutions of titanium and thorium hydroxides. Koll. zhur. 16 no.5:376-380 S-O '54. (MLRA 7:11)
(Colloids) (Films (Chemistry)) (Electrolytes) (Hydroxides)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S.G.

V The structure of extra-thin films of copper hydroxide formed spontaneously on the surface of an aqueous tetrammincopper solution. S. G. Mokrushin, G. A. Kitaev, and O. K. Shaballina. *Doklady Akad. Nauk S.S.S.R.* 94, 1109-11(1954).—The structure of $Cu(OH)_2$ films was studied on the surface of tetrammincopper soln. formed by placing a drop of the soln. on the cover glass directly over the cardioid condenser lens of a microscope, and permitting the NH_3 to vaporize slowly. $Cu(OH)_2$ was formed hydrolytically and appeared under the microscope as a multitude of brilliant colloidal particles in a lively Brownian movement. An extremely thin film was finally formed on the surface, to which the coarser particles in the suspension adhered. A secondary formation was observed on the cover glass, and it was composed of deposited spherical coagulated particles. Some microscopic pictures of the film are reproduced.
W. M. Sternberg

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(2)

Ural Polytech Inst. im S. M. Kirov

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S. G.

AID P - 1587

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 17/21

Authors : Mokrushin, S. G., Borisikhina, V. I., and Potaskuyev, K. G.

Title : Effect of electrolytes on the formation and stability of foam from malt sprout

Periodical : Zhur. prikl. khim., 28, no.1, 107-108, 1955

Abstract : Solutions of various salts were added to a suspension of malt sprout. Cadmimum sulfate, aluminum sulfate, ferric chloride, and zinc chloride increased the volume of foam and its stability. Zinc chloride prevents malt sprout from rotting without affecting its ability to form foam. Malt sprout may be used as a foaming agent for fire extinguishers. Seven ref. (5 Russian: 1936-50)

Institution: Ural Polytechnic Institute

Submitted : Je 30, 1953

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S.G.

AID P - 1588

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 18/21

Authors : Mokrushin, S. G. and Borisikhina, V. I.

Title : Effect of laminary dispersed substances on the stability of foam

Periodical : Zhur. prikl. khim., 28, no.1, 109-111, 1955

Abstract : Finely ground malt sprout was used as the foam-forming substance in experiments with various metal hydroxides. The dispersed hydroxides of zinc, magnesium, nickel, and cobalt stabilized foam; the same effect was observed by addition of small amounts of mica and asbestos; large amounts of these substances decreased the stability of foam. Two tables, 9 references (7 Russian: 1946-51)

Institution: Ural Polytechnic Institute (im. S. M. Kirov)

Submitted : Je 30, 1953

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S. G.

"Spontaneous Formation of Fine Layers on the Surface of Hydrophobic Sols" (Samoproizvol'noye obrazovaniye tonkikh sloyev na poverkhnosti gidrofobnykh zoley) from the book Trudy of the Third All-Union Conference on Colloid Chemistry, pp. 357-360, Iz. AN SSSR, Moscow, 1956

(Report given at above Conference, Minsk, 21-4 Dec 53)

Author: Ural Polytechnic Institute im. S. M. Kirov
Chair of Physical and Colloid Chemistry

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S.G.; POTASKUYEV, K.G.

Experimental investigation of laminar systems. 22. Coagulation of colloidal particles at the liquid-gas interface [with English summary in insert]. Koll.Zhur. 18 no.2:215-218 Mr-Ap '56. (MLRA 9:8)

1. Ural'skiy politekhnicheskiy institut imeni S.M. Kirova, Sverdlovsk.

(Coagulation)

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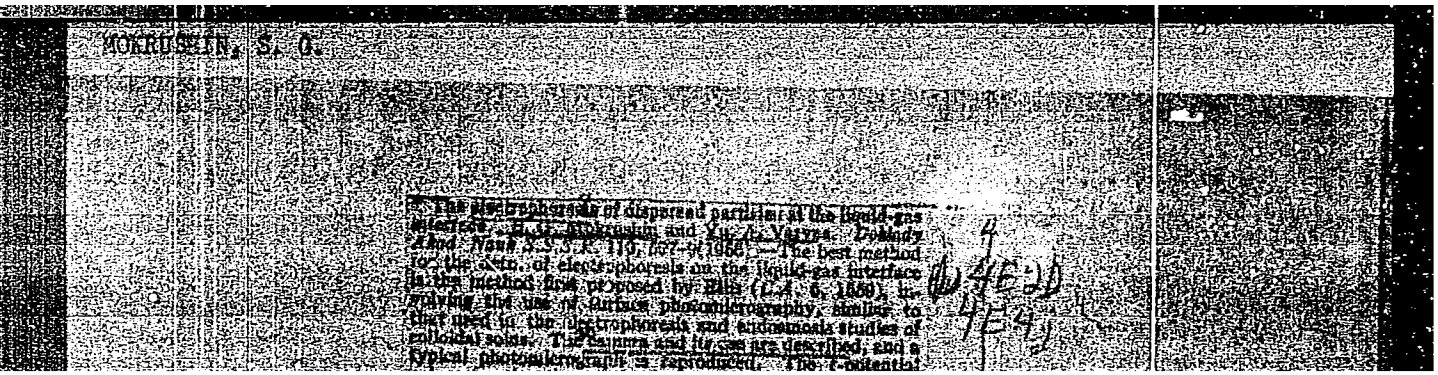

MOKRUSHIN, S. G.

The electrophoresis of dispersed particles at the liquid-gas interface. S. G. Mokrushin and Yu. A. Yagupa. *Doklady Akad. Nauk S.S.S.R.* 110, 1027–9(1956).—The best method for the exptl. of electrophoresis on the liquid-gas interface is the method first proposed by Ellis (*J. A. C. S.* 1888), involving the use of surface photomicrography, similar to that used in the electrophoresis and endosmosis studies of colloidal soils. The apparatus and its use are described, and a typical photomicrograph is reproduced. The ζ-potential

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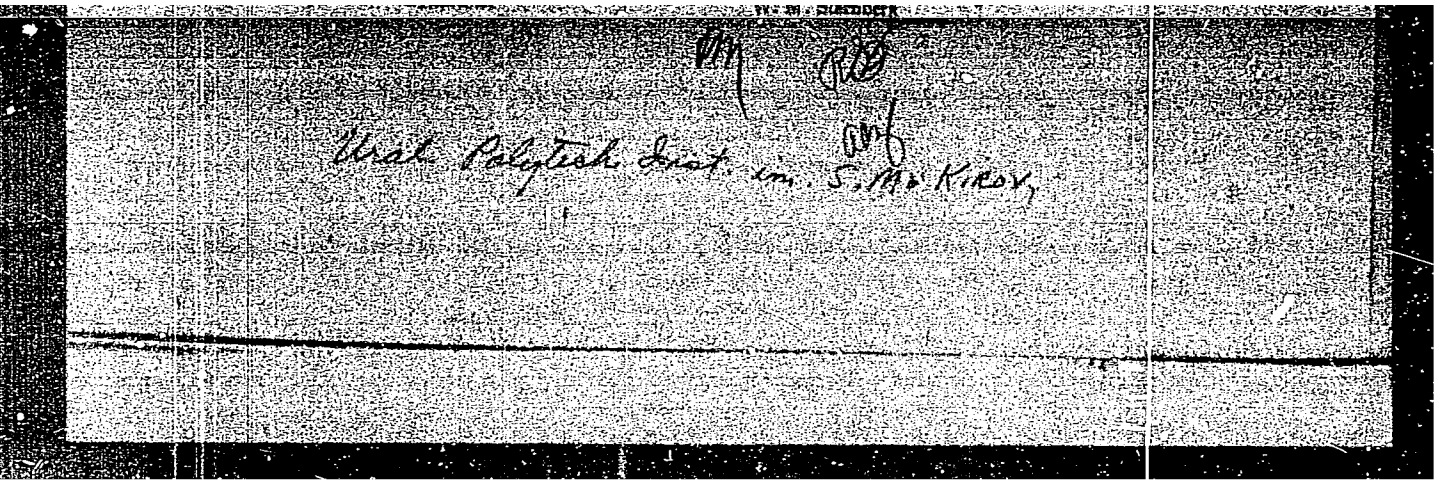

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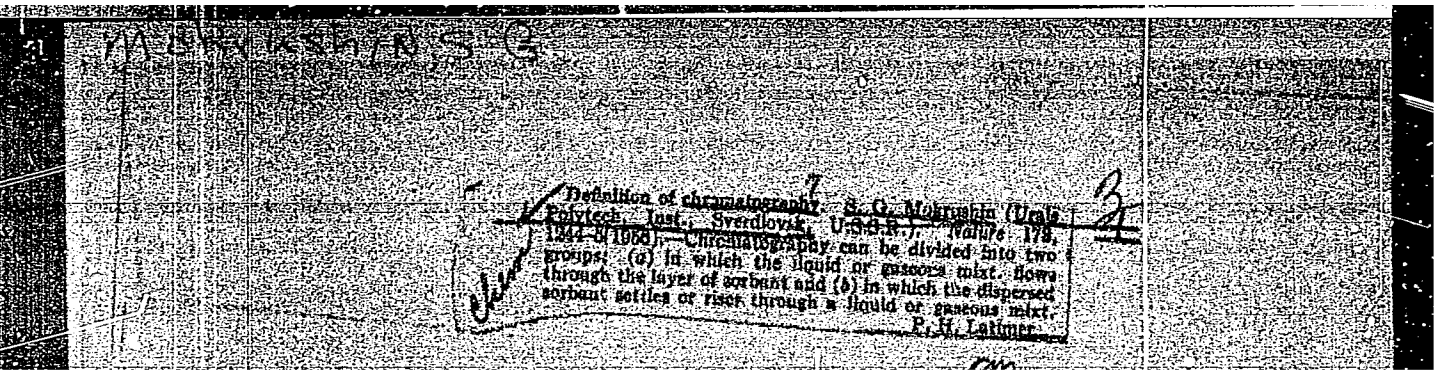

Definition of chromatography. S. G. Mairanovskii (Ural Polytech. Inst., Sverdlovsk). *Zavodskaya Lab.* 24, 1241-3(1958).—Chromatography can be divided into two groups: (*a*) in which the liquid or gaseous mixt. flows through the layer of sorbant and (*b*) in which the dispersed sorbant settles or rises through a liquid or gaseous mixt. P. H. Latimer

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

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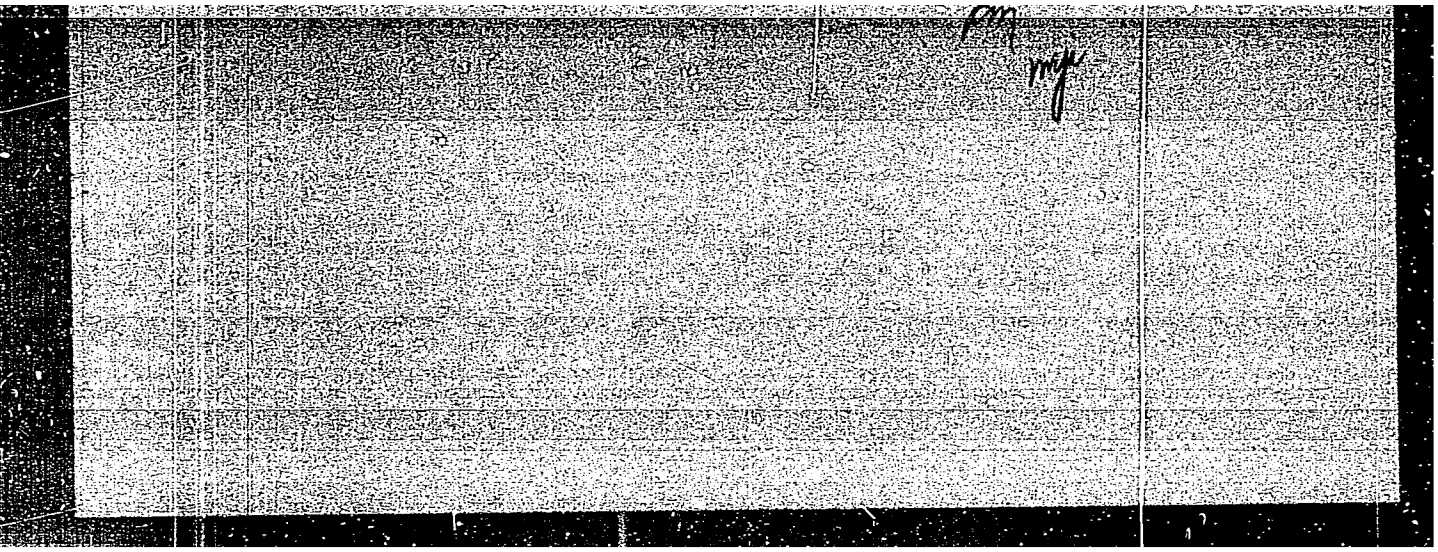

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S.G.

The structure of thin copper sulfide films on the boundary surface between solution and gas. S. G. Mokrushin, Yu. D. Tkachev, and O. K. Shabalina (Ural Polytech. Inst., Sverdlovsk). *Kolloid. Zhur.* 19, 607-8(1957); cf. C.A. 49, 18736e.—The films obtained by the action of 0.05% H_2S in air on aq. 0.2-2*N* $CuSO_4$ solns. consisted of colloidal aggregates, as shown by an electron microscope.
J. J. Bikerman

4

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S.G.; KITAYEV, G.A.

Experimental investigation of laminar systems. Part 23. The kinetics of formation of hydroxide films on the surface of coper ammonium solutions. Koll. zhur. 19 no.1:93-99 Ja-F '57.
(MLRA 10:4)

1. Ural'skiy politekhnicheskiy institut im. S.M. Kirova.
(Films (Chemistry))

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S. G.

MOKRUSHIN, S. G.

Nature of the chromatographic method [with summary in English]. Koll. zhur. 19 no.6:759-760 N-D '57. (MIRA 11:1)

1. Ural'skiy politekhnicheskiy institut im. S.M. Kirova, Sverdlovsk.
(Chromatographic analysis)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

5(4)
AUTHORS: Shveykina, R. V., Mokrushin, S. G. SOV/153-58-4-2/22

TITLE: II. On the Influence of Surface-Active Substances Upon the Coagulation of Colloidal Particles at the Interphase Surface: Liquid-Gas (II. Vliyaniye poverkhnostno-aktivnykh veshchestv na koagulyatsiyu kolloidnykh chastits na mezhfaznoy poverkhnosti zhidkost'-gaz)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 4, pp 8 - 12 (USSR)

ABSTRACT: Surface- active substances are adsorbed at the phase limit: liquid-gas as positively charged particles from the solutions. These compounds exercise influence upon the formation of surface films, the formation of foam and the extraction of colloids by foam. A survey of the respective publications is given (Refs 1-6). It results from these papers that considerable influence is exerted by surface-active substances upon both the foam formation and the sol state. There is ample reason to assume that influence is exercised in a certain way by these substances upon

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the extraction of colloidal particles by means of small air bubbles. The authors carried out tests to check that assumption and to clarify how far the extraction degree of the disperse hydrosol phase varies in the presence of some surface-active substances. Ethanol, glycerin, n-butyl alcohol and isoamyl alcohol served as such substances. Sb_2S_3, $Fe(OH)_3$ and gold sol were used as sols. The solution to be investigated was filled into a vertical tube with porous bottom, and foam was obtained by blowing air through the bottom. The colloidal particles were adsorbed and coagulated at the surface of the air bubbles, which then were removed from the solution together with the foam. Figure 1 (colloidal Sb_2S_3) demonstrates that the extraction process is usually considerably accelerated by the surface- active substances (ethyl, n-butyl and iso-amyl alcohol). The extraction degree of the colloids is increased with increasing glycerin- and ethanol con-

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centration. The authors draw the following conclusions from the above-mentioned results and additional tests carried out with titanium hydroxide and gold: 1) The extraction degree of colloids extracted from solutions is changed by surface-active substances; 2) It was found that in the presence of isoamyl and n-butyl alcohol the extraction degree of negatively charged colloidal particles is increased, whereas the extraction degree of positively charged particles is decreased; 3) Alcohols added to the hydrosols (without gelatin) form an unstable foam that is not able to extract the disperse phase from the solutions. There are 3 figures, 1 table, and 7 references, 2 of which are Soviet.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

II. On the Influence of Surface-Active Substances Upon the Coagulation of Colloidal Particles at the Interphase Surface: Liquid-Gas

SOV/153-58-4-2/22

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S.M.Kirova (Ural Polytechnical Institute imeni S.M.Kirov) Kafedra fizicheskoy i kolloidnoy khimii (Chair of Physical and Colloidal Chemistry)

SUBMITTED: October 14, 1957

Card 4/4

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

5(4)

AUTHORS: Degtyareva, T. A., Mokrushin, S. G. SOV/153-58-6-1/22

TITLE: Formation of Ultra-thin Layers of the Disperse Phase on the Separating Plane Hydrosol - Organic Liquid (Obrazovaniye ul'tratonkikh sloyev dispersnoy fazy na poverkhnosti razdela gidrozol'-organicheskaya zhidkost'). I. Influence of the Character of the Non-aqueous Phase on the Film Formation Kinetics (Vliyaniye kharaktera nevodnoy fazy na kinetiku obrazovaniya plenok)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 6, pp 3-8 (USSR)

ABSTRACT: The laminar system belong to the unilaterally-disperse systems and take an intermediate position between the polydisperse systems and the macro-systems. Consequently, the laminar systems possess a great variety of properties. The films formed on the separating plane of two liquid phases are of great importance for the formation and stability of emulsions. Insofar as emulsions belong to systems with a highly developed interphase plane, and as this plane determines the properties and stabilities of the emulsions, the surface layers are closely linked with the problems of the emulsions. Various well-known

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organic stabilizers of the emulsions are recalled (Ref 3). A spontaneous film formation on the surfaces of colloidal solutions has been described by the 2nd author in respect of hydrosols of iron-(Ref 7) chromium- and aluminium hydroxides (Ref 4). He proposed the hypothesis (Ref 5) that this process constituted a consequence of the surface coagulation of the sol. This problem has been studied in great detail by Frumkin (Ref 6). On an earlier occasion, the 2nd author had studied the formation of films also on the surfaces of hydrosols of titanium and thorium hydroxides (Ref 8). On the replacement, by a new separating plane hydrosol - condensed organic phase, of the phase separating plane hydrosol - air, the colloidal particles are fixed more rigidly on the parting plane (Refs 9,10). Firstly, interphase tension affects the surface colloidal particle - liquid (Refs 9, 10), secondly, the organic liquid can change the stability of the sol and favor its coagulation (Ref 11). In the paper under consideration the study of this phenomenon is continued. The authors studied the film formation

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on the phase separating plane hydrosol of nickel-hydroxide - organic liquid (benzene, benzine, toluene, o-xylene, chlorobenzene, or nitrobenzene). They arrived at the following results: 1) A film of colloidal nickel hydroxyl develops spontaneously on the surface of the colloidal solution, both on the border to air and on that to the non-aqueous condensed phase. Table 1 shows the thicknesses of films of different interference colors. 2) The film thickness increases in the course of time, until it reaches a constant value. This period of time varies with the separating planes: the attainment of this value takes longest on the border to air (more than 48 hours). If an organic liquid is used instead of air, the growth of the film is completed more quickly: after a contact duration of 16 hours on the border to a non-polar liquid, after a duration of 8 hours on that to a polar liquid (Figs 1, 2, Table 2). 3) Films developed on different separating planes possess different maximum thicknesses. This fact is connected with the different coagulating effects of the organic liquids.

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Formation of Ultra-thin Layers of the Disperse Phase SOV/153-58-6-1/22
on the Separating Plane Hydrosol - Organic Liquid.
I. Influence of the Character of the Non-aqueous Phase
on the Film Formation Kinetics

There are 2 figures, 2 tables, and 19 references, 10 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S. M. Kirova, Kafedra fizicheskoy i kolloidnoy khimii (Ural Polytechnical Institute imeni S. M. Kirov, Chair of Physical and Colloid Chemistry)

SUBMITTED: December 2, 1957

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

69-58-2 -5/23

AUTHORS: Degtyareva, T.A.; Mokrushin, S.G.

TITLE: The Formation of Ultra-Thin Disperse Phase Layers at a Hydrosol-Organic Liquid Interface (Obrazovaniye ul'tratonkikh sloyev dispersnoy fazy na poverkhnosti razdela gidrozol'-organicheskaya zhidkost')

PERIODICAL: Kolloidnyy zhurnal, 1958, Vol XX, Nr 2, pp 159-162 (USSR)

ABSTRACT: The spontaneous formation of thin films on the surface of colloidal solutions is described [Ref 1]. If the interface hydrosol-air is replaced by the interface hydrosol-condensed organic phase, the fastening of the colloidal particles on the interface is tighter. This is due to the interface attraction on the surface collcidal particle-liquid [Ref 6]. A kinetic study of the formation of filme on the interface nickel hydroxide hydrosol-organic liquid in relation to the sol concentration and the nature of the non-aqueous phase is made in the article. The colloidal particles of the nickel hydroxide have the form of hexagonal plates with a thickness of several molecular layers and a diameter of 280-1,000 angstrom. The particles are positively charged. Experiments show that the ability for spontaneous formation of thin films is mainly present in positive-

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

The Formation of Ultra-Thin Disperse Phase Layers at a Hydrosol-Organic Liquid Interface

ly charged sols. Nickel hydroxide hydrosol, with a concentration of 0.158 g Ni per 1 liter, was used, but for the non-aqueous phase, benzene, o-xylene, totuol, chlorbenzene, and nitrobenzene was used. The thickness of the multi-layer film was determined by interferential color observed during repeated submerging in chrome-plate sol. The results of the kinetic study are given in figure 1. Not only a faster formation of the film is caused by the non-polar condensed phase, but also the formation of thicker films than on the interface with air. An increase of the polarity of the non-aqueous phase causes a decrease in the thickness of the film (table 2). The influence of the sol dilution on the formation of the films is shown in figure 2. The thickness of the films is in all cases nearly the same.
There are 2 graphs, 2 tables, and 13 references, 6 of which are Soviet, 4 German, 2 English. and 1 American.

Card 2/3

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69-58-2 -5/23

The Formation of Ultra-Thin Disperse Phase Layers at a Hydrosol-Organic Liquid Interface

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S.M. Kirova, Sverdlovsk (Ural Polytechnical Institute imeni S.M. Kirov, Sverdlovsk)

SUBMITTED: December 4, 1956

1. Chemical compounds--Theory 2. Films--Formation
3. Colloids--Applications

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

69-58-2 -18/23

AUTHORS: Shveykina, R.V.; Mokrushin, S.G.

TITLE: The Effect of Electrolytes on the Coagulation of Colloid Particles at the Liquid-Gas Interface (Vliyaniye elektrolitov na koagulyatsiyu kolloidnykh chastits na mezhfaznoy poverkhnosti zhidkost'-gaz)

PERIODICAL: Kolloidnyy zhurnal, 1958, Vol XX, Nr 2, pp 233-236 (USSR)

ABSTRACT: Colloid particles of silver, gold, arsenic, antimony sols, etc., have been extracted from solutions by means of gelatine foam [Ref 1]. This method is also useful in separating colloidally and molecularly dissolved substances. The colloidal particles acquire a surface active character after the addition of gelatine. They move spontaneously to the interface liquid-gas. The process is considerably influenced by the presence of electrolytes. The electrolytes increase the foam formation [Ref 4-6]. The electrolytes studied were KNO_3, $NaNO_3$, $LiNO_3$, $Ba(NO_3)_2$, $Al(NO_3)_3$, $Zr(NO_3)_4$, etc. Figure 1 shows that the degree of extraction increases with the presence of an electrolyte. Bivalent cations cause a greater increase than monovalent cations. Ions with three and four valencies cause a reduction. The

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

The Effect of Electrolytes on the Coagulation of Colloid Particles at the Liquid-Gas Interface

most effective among the monovalent ions Li^+, Na^+, and K^+ were the Li ions, because they had the highest degree of hydration. The degree of extraction is connected with the aggregation of the colloid particles under the influence of electrolytes and with the foam producing capacity of gelatine.
There are 5 graphs and 7 Soviet references.

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S.M. Kirova, Sverdlovsk (Ural Polytechnical Institute imeni S.M. Kirov, Sverdlovsk)

SUBMITTED: January 5, 1957

1. Colloids--Separation--Methods 2. Gelatine--Foam--Applications
3. Electrolytes--Applications

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S. G.;

"The formation of thin colloidalfilms."

report presented at the Fourth All-Union Conference on Colloidal Chemistry, Tbilisi, Georgian SSR, 12-16 May 1958 (Koll zhur, 20,5, p.677-9, '58, Taubman, A.B)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

AUTHOR: Mokrushin, S.G., Borisikhina, V.I. SOV/69-20-6-10/15

TITLE: The Kinetics of the Phase Separation of Protected Emulsions (Kinetika rassloyeniya faz bronirovannykh emul'siy)

PERIODICAL: Kolloidnyy zhurnal, 1958, Vol 20., Nr 6, pp 736-738 (USSR)

ABSTRACT: The most efficient stabilizers of emulsions are those, which form gel-like protection films [Ref. 2,3] on the emulsion droplets. The dyes congo-red, methyl-green, and methyl-violet are such stabilizers. The stability of the emulsion increases with the quantity of the dye solution. Figure 3b is a microphotograph showing small droplets of 10-20 μ in diameter on the surface of larger droplets of 100 μ in diameter. There are 2 graphs, 1 table, 1 set of photos, and 7 references, 4 of which are Soviet, 2 English and 1 German.

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S.M. Kirova (Ural Polytechnical Institute imeni S.M. Kirov)

SUBMITTED: June 3, 1957

1. Colloids--Stabilization 2. Gels--Properties 3. Dyes--Applications 4. Microphotography--Applications

Card 1/1

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

SHVEYKIN, R.V.; MOKRUSHIN, S.G.

Effect of temperature on the colloid extraction kinetics by means of foam. Zhur. prikl. khim. 31 no.7:1109-1111 Jl '58. (MIRA 11:9)

1. Ural'skiy politekhnicheskiy institut imeni S.M. Kirova.
(Colloids) (Extraction (Chemistry))

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

5(4)
AUTHORS: Degtyarewa, T. A., Mokrushin, S. G. SOV/153-2-1-6/25

TITLE: Formation of Ultramicroscopically Thin Layers of the Disperse Phase on the Hydrosol - Organic Liquid Interface (Obrazovaniye ul'tratonkikh sloyev dispersnoy fazy na poverkhnosti razdela gidrozol' - organicheskaya zhidkost')
II. Effect of Electrolytes on the Kinetics of Film Formation
(II. Vliyaniye elektrolitov na kinetiku obrazovaniya plenok)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 1, pp 30-33 (USSR)

ABSTRACT: The authors arrived at the conclusion that the increasing thickness of films in the course of time results from the coagulation of colloidal particles in the surface layer. The different (maximum) thickness of the films formed at the separating surface toward various organic liquids is determined by the different capability of coagulating of the latter. Since the coagulation of colloidal particles is due to partial or total discharge of the particles, the intensity of coagulation obviously depends on the concentration of the ions promoting coagulation. Since nickel-hydroxide particles are positively charged, their coagulation is caused by anions. For

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

purpose of investigating the problem mentioned in the subtitle the authors used electrolytes with anions which exhibit different adsorptive power in the separating layer: KCl, KBr, KJ, $K_3Fe(CN)_6$, and $K_4Fe(CN)_6$ (Ref 1). The procedure of these experiments is described in the experimental part. The results are listed in figures 1 - 4 which indicate that an electrolyte addition to the sol results in the formation of thicker films, as compared with films without an electrolytic addition at the same separating surface. Films of colloidal nickel hydroxide at the separating surface hydrosol - benzene without the addition of electrolytes attain a maximum thickness of 99 Å. In the presence of KCl, KBr, and KJ, it is equal to 103 Å, 117 Å, and 127 Å, respectively. The authors determined the maximum thickness of the film by the equation $\frac{t}{\delta_t} = \frac{1}{\delta_\infty} t + \frac{1}{\delta_\infty k}$ (1) by the graphical method. The growth rate of the film thickness is denoted rate constant k. Its value

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was graphically determined according to figures 3 and 4 (see Table on p 31, not numbered). The authors believe that equivalent electrolytic additions to the sol render the concentration of the anions in the separating layer different: maximum concentration in the case of J-anions, minimum concentration in the case of Cl-anions. The colloidal particles in the separating layer therefore coagulate at different velocities, as may be concluded from the value of the constant k determined by the authors. Owing to the difference in the coagulating effect of Cl^-, Br^-, and J^- anions also films of different thickness are produced. The action of the afore-mentioned iron cyanides on the kinetics of the film is determined by the same factors as in the case of halogen salts. If no coagulation of the colloidal particles in the separating surface occurs, only a thin film is produced. Its thickness remains constant and is equal to one of the dimensions of the primary colloidal particles. The authors applied a monolayer of oleic and erucic acid to the sol surface. The relevant results are contained in figure 5. The film thickness remains constant in the course of time. The film structure was illustrated in a scheme.

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Discharge occurs only at the surface of the colloidal particles where the acid molecules are adsorbed. Since the discharge is conserved at the lower side of the particles, no second layer of colloidal nickel hydroxide is formed, and no increase in the film thickness is brought about by coagulation. The thickness of the resultant films is to be considered a summary quantity which comprises the thickness of the small plates of the afore-mentioned hydroxide and of the thickness of the acid molecules. This is equal to the length of the hydrocarbon chain. If the length of the oleate molecules amounts to 22 Å, one colloidal particle is 21 Å long, which corresponds to the thickness of the colloidal particle of nickel hydroxide (Ref 6). There are 5 figures, 1 table, and 6 references, 5 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S. M. Kirova; Kafedra fizicheskoy i kolloidnoy khimii (Ural Polytechnic Institute imeni S. M. Kirov; Chair of Physical- and Colloid Chemistry)

SUBMITTED: December 2, 1957

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

5 (4)

AUTHORS: Degtyareva, T. A., Mokrushin, S. G. SOV/153-2-2-8/31

TITLE: Formation of Ultrathin Layers of the Disperse Phase on the Parting Plane on Hydrosol Organic Liquid (Obrazovaniye ul'tratonkikh sloyev dispersnoy fazy na poverkhnosti razdela gidrozol'- organicheskaya zhidkost'). III. Structural Changes in Ultrathin Layers (III. O strukturnykh izmeneniyakh v ul'tratonkikh sloyakh)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 2, pp 190 - 195 (USSR)

ABSTRACT: Defining the film thickness of colloidal nickel hydroxide (method Langmuir-Blodgett) the authors noticed a change of the surface occupied by the film during that time. In the present article they investigate the influence of several factors on this change of the mentioned film which developed during different lengths of time. To investigate the influence of the nature of the condensed anhydrous phase, they chose: benzene, o-xylene, chlorobenzene and nitrobenzene. The brine was diluted to one fourth and one eighth. In order to investigate the influence of surface active agents on the change of film surface,

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

oleic acid and erucic acid, insoluble in water, were used as benzene solutions. For the method used in the experiments, see reference 1. After the evaporation of the anhydrous phase a silk thread thinly coated with paraffin, was put on the brine surface. The developed film was compressed by means of castor oil. The outline of the compressed film was copied on paper and computed by means of graph paper. The results of the experiments are given in figures 1-3. It can be seen that in the course of time, the surface free from the film grows at the expense of the size of the area covered by the layer. At first this development progresses quickly, but then it slows down and finally stops altogether: the film reaches its limit surface (S_∞). The authors hold the opinion that the change of the film area is in close connection with the change of its structure. On the strength of the measurements of the film area, the authors tend to hold the opinion that in the course of time, a separation of the thin surface layer takes place: on the one hand the colloidal particles approach one another under the influence of the intermicellar forces and form small isles, on

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

the other hand parts of the surface show free from the film. This phenomenon may be called two-dimensional syneresis. For the definition of this syneresis a series of equations is derived (1) - (5). The experimental results represented as function $\frac{t}{S_o - S_t}$ (Figs 4-6) form a straight line. This proves the correctness of the assumption which the authors took as a basis for choosing the equation. The speed constant of the two-dimensional syneresis was determined from these figures (Tables 1-3). The maximum concentration of the colloidal particles in the surface layer is reached on the hydrosol-benzene boundary, due to the greater polarity difference (Ref 3). Consequently the speed of the syneresis is bound to be at its maximum. The computations showed that at this limit the syneresis takes place at a slower rate than at the separation limit with stronger polar liquids. The authors see the cause of this phenomenon in the fact that the surface change of the film is due to two processes taking place simultaneously in two different directions

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

Formation of Ultrathin Layers of the Disperse Phase on the Parting Plane on Hydrosol Organic Liquid. III. Structural Changes in Ultrathin Layers

SOV/153-2-2-8/31

and with different speeds. This is the authors' interpretation. Table 3 shows the results achieved after the two mentioned acids had been added. Erucic acid increases the speed constant much more than oleic acid does. There are 6 figures, 3 tables, and 3 Soviet references.

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S. M. Kirova; Kafedra fizicheskoy i kolloidnoy khimii (Ural Polytechnic Institute imeni S. M. Kirov; Chair of Physical and Colloid Chemistry)

SUBMITTED: December 2, 1957

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

5(2) SOV/153-2-4-13/32

AUTHORS: Borisikhina, V. I., Mokrushin, S. G.

TITLE: The Emulsifying Capacity of Colloidal Hydroxides of Iron and Nickel

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 4, pp 541 - 544 (USSR)

ABSTRACT: The investigation of the problem mentioned in the title is of practical interest for the extraction of colloids from solutions by means of the emulsifying method. Substances which can form gel-like protective films on the emulsion drops are the most powerful stabilizers of emulsions (Ref 1). The quantitative characteristics of the stability of emulsions has not yet been sufficiently described in publications. In order to determine the rate constant of the phase separation of an emulsion, the equation (1) is given (Refs 5,6) the integration of which leads to equation (2)

$k = \frac{1}{t} \lg \frac{1+\sqrt{v}}{1-\sqrt{v}}$; k = the stability degree of the emulsion.

The paper under discussion aims at investigating the emulsifying capacity by the example of the system benzene - water, and at

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using Lederer's constant k (Ref 6) for the quantitative characteristic of the stability of the emulsion stabilized by the colloids mentioned. The students T. P. Vorozhtsova and T. M. Zakharova participated in this investigation. The colloids mentioned in the title were prepared according to the methods of references 7 and 8, respectively. Table 1 shows the colloido-chemical characteristics of the brine. Figures 1 and 2 show the experimental results. The inclination of the curves that the benzene separation becomes slower, i.e. the emulsion becomes stable, the more colloid solution is added to the emulsion. Figure 3 shows a microphotograph of an emulsion which was formed by the addition of 5 ml of colloidal iron hydroxide. Figures 4 and 5 illustrate emulsions formed with an addition of 0.5 and 2 ml of nickel hydroxide, respectively. The addition of nickel-hydroxide quantities of more than 1.5 ml brings about a very stable emulsion remaining unchanged for several days. On account of experimental results the separation constants of the emulsion phases were computed according to equation (2) (Table 2). Hence it appears that the values of the constants, except for some values overestimated at the beginning of phase separation, are

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sufficiently stable for every system. Figure 6 shows a diagram of the dependence of the constant k on the addition of the emulsifier. Upon comparison of the curves, a rapid decrease of the constant k appears caused by an addition of colloidal nickel hydroxide. This hydroxide has a higher emulsifying capacity, as was mentioned above (Figs 3-5). There are 6 figures, 2 tables, and 9 references, 6 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut, Kafedra fizicheskoy i kolloidnoy khimii (Ural's Polytechnic Institute, Chair of Physical and Colloidal Chemistry)

SUBMITTED: May 15, 1958

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

BORISIKHINA, V.I.; MOKHUSHIN, S.G.

Effect of electrolytes on the rate constant of phase separation in stabilized emulsions. Izv.vys.ucheb.zav.; khim.i khim.tekh. 2 no.5:711-713 '59. (MIRA 13:8)

1. Ural'skiy politekhnicheskiy institut, kafedra fizicheskoy i kolloidnoy khimii.
(Emulsions) (Electrolytes)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

5(4) SOV/69-21-1-11/21

AUTHORS: Mokrushin, S.G. and Kitayev, G.A.

TITLE: Experimental Research on the Laminar Systems (Eksperimental'nyye issledovaniya laminarnykh sistem).24. The Kinetics of the Formation of Hydroxide Films on the Surface of Cobalt and Nickel Ammine Solutions. (24. Kinetika obrazovaniya gidrookisnykh plenok na poverkhnosti rastvorov ammiakatov kobal'ta i nikelya).

PERIODICAL: Kolloidnyy zhurnal, 1959, Vol XXI, Nr 1, pp 80-85 (USSR)

ABSTRACT: Research has been conducted on the kinetics of the growth of cobalt and nickel hydroxide films on the surface of solutions of the corresponding ammines with respect to concentration and temperature. The formation of hydroxide films has taken place only in the presence of a monolayer of a surface-active substance on the surface of the solution. The rate of growth of films under a layer of oleic acid has been in-

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

Experimental Research on the Laminar Systems. 24. The Kinetics of the Formation of Hydroxide Films on the Surface of Cobalt and Nickel Ammine Solutions.

vestigated. The rate of hydrolysis of the ammines is determined by the rate of ammonia evaporation through the hydroxide film. The following stages are assumed for the formation and growth of cobalt hydroxide films: evaporation of excess ammonia, hydrolysis of cobalt tetrammine with the formation of hydroxide, attachment of the colloidal hydroxide to the surface of the solution. There are 8 graphs, 1 table and 5 Soviet references.

ASSOCIATION: The Ural'skiy politekhnicheskiy institut im.S.M.Kirova, Sverdlovsk (The Ural Polytechnical Institute imeni S.M. Kirov, Sverdlovsk)

SUBMITTED: April 19, 1957

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

5(4) SOV/69-21-3-17/25

AUTHORS: Mokrushin, S.G. and Zhidkova, L.G.

TITLE: The Effect of Low Temperature on the Volume and Stability of Foam

PERIODICAL: Kolloidnyy zhurnal, 1959, Vol XXI, Nr 3, pp 336-339 (USSR)

ABSTRACT: The authors report on a study of the formation and stability of foams obtained from aqueous solutions of calcium chloride within the temperature interval from + 23 to -37°C. To the $CaCl_2$ solution, chalk and finely ground malt sprouts (foaming agent) were added. This carefully-stirred suspension was separately poured into sulphuric acid and hydrochloric acid. The experiments revealed that on interaction between suspension and sulphuric acid, the maximum intensity of foam formation lies in the temperature interval from -5 to -14°C. In the system suspension-

Card 1/2

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

The Effect of Low Temperature on the Volume and Stability of Foam

hydrochloric acid the maximum intensity could be observed at temperatures from - 4 to - 5°C. At low temperatures foam does not form at once but only after a time interval subsequent to the mixing of the components. The time interval is the longer, the lower the temperature of foam formation is. At the lowering of the temperature, the stability of the foam increases. At temperatures below -15°C, the surface layers surrounding the bubbles assume a brittle structure. The authors mention the Soviet scientists P.A. Rebinder and Ye.M. Savitskaya [Ref Nr 6]. There are 4 graphs and 9 references, 8 of which are Soviet and 1 German.

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S.M. Kirova, Sverdlovsk (Ural Polytechnical Institute imeni S.M. Kirov, Sverdlovsk)

SUBMITTED: 3 July, 1957

Card 2/2

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

5(1) SOV/80-32-5-43/52

AUTHORS: Mokrushin, S.G., Borisikhina, V.I.

TITLE: Membrane Semiultrafilters on Textile Base

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 5, pp 1163-1164 (USSR)

ABSTRACT: The production of semiultrafilters on textile base with a given pore size is studied here. For impregnation of the base a 6%-solution of nitrocellulose moving picture film in an alcohol-ether mixture with 1% malonic ester and 0.5% glycerol was used. The best results were obtained with batiste. Hairy fabrics form inequalities after impregnation. The pore size can be varied by adding to the initial collodion mixture adequate quantities of esters.
There are: 1 table, 1 graph and 5 references, 3 of which are Soviet and 2 German.

Card 1/2

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

Membrane Semiultrafilters on Textile Base SOV/80-32-5-43/52

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S.M. Kirova (Ural Polytechnical Institute imeni S.M. Kirov)

SUBMITTED: August 18, 1958

Card 2/2

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

KAZAKOV, Ye.M.; KITAYEV, G.A.; MOKRUSHIN, S.G.

Experimental studies of laminar systems. Part 25: Electron microscopic investigation of the structure and mechanism of formation of ultrathin copper hydroxide films formed on a solid surface. Koll.zhur. 22 no.1:23-24 Ja-F '60. (MIRA 13:6)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova Sverdlovsk.
(Copper hydroxide) (Films (Chemistry))

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

SKRYLEV, L.D.; MOKRUSHIN, S.G.

Extraction of colloidally dissolved, mixed heavy metal ferrocyanides from their hydrosols by means of gelation foam. Koll. zhur. 22 no.3:344-350 My-Je '60. (MIRA 13:7)

1. Ural'skiy politekhnicheskiy institut im. S.M.Kirova, Sverdlovsk.
(Ferrocyanides) (Gelatin) (Colloids) (Extraction(Chemistry))

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S.G.; BORISIKHINA, V.I.

Some foam stabilizers and extinguishers. Trudy Ural. politekh. inst. no.94:4-9 '60. (MIRA 15:6)
(Foam)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S.G.; ZHIDKOVA, L.G.

Effect of electrolytes on the formation and stability of chemical foam. Trudy Ural. politekh. inst. no.94:10-15 '60. (MIRA 15:6)
(Foam) (Electrolytes)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

BORISIKHINA, V.I.; MOKHUSHIN, S.G.

Effect of electrolytes on the value of the phase separation constant of protective, film-forming emulsions. Trudy Ural.politekh. inst. no.96:93-100 '60. (MIRA 14:3)
(Emulsions)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S.G.; SKRYLEV, L.D.

Effect of electrolytes and of the hydrogen ion concentration on the recovery of a dispersed phase from the hydrosols of some mixed metal ferrocyanides by means of gelatin foam. Izv.vys.ucheb.zav.; khim.i khim.tekh. 4 no.1:70-73 '61. (MIRA 14:6)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova, kafedra fizicheskoy i kolloidnoy khimii.
(Ferrocynaides)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

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S/153/61/004/003/003/008
E071/E435

5.4400

AUTHORS: Kazakov, Ye.M., Kitayev, G.A. and Mokrushin, S.G.

TITLE: An experimental investigation of laminar systems. XXVI. The kinetics and mechanism of the formation of copper hydroxide films on the surface of glass

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, Vol.4, No.3, 1961, pp.411-415

TEXT: The formation of thin films on the phase boundaries liquid-gas and liquid-solid has been investigated in the authors' laboratory since 1930. In the opinion of the authors, the mechanism of the formation of such films consists of the following stages: formation of a colloidally dispersed substance, adsorption of colloidal particles on the phase boundary and their growth due to coagulation. In the present paper, some experimental data on the kinetics of the formation of copper hydroxide film on the surface of glass submerged in a solution of copper ammoniacate are reported and considered in the light of the above postulated mechanism. The experimental procedure consisted of the immersion of washed glass plates into specially prepared

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An experimental investigation ...

copper ammoniacate solutions for a given time and measuring the thickness of the film formed by interference colours of the reflected light and the concentration of colloidally dispersed hydroxide in the solution by the nephelometric method. The preliminary preparation of copper ammoniacate solutions consisted of the removal of the excess of ammonia by stirring until the appearance of a noticeable opalescence and filtration. It was found that the highest rates of formation of copper hydroxide films takes place at a concentration of $Cu(NH_3)_4SO_4$ from 0.005 to 0.025 mole/litre. The rate of growth of the film increases with increasing opalescence of the solution. If the hydrolysis of copper ammoniacate is prevented (experiments in closed flasks) then the film growth stopped on the attainment of a certain minimum value of opalescence. This fact is considered as proof of the colloidal-chemical nature of the process of formation of the film. By increasing the surface area open to the atmosphere of the vessel in which the experiments were carried out, i.e. by increasing the rate of removal of ammonia, the velocity of growth of the film increases. To describe the process, the authors used an equation derived by M. Smolukhovskiy for the adsorption of a colloidally

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

An experimental investigation ...

dissolved substance on a solid surface:

$$M = \frac{2\nu\sqrt{Dt}}{\sqrt{\pi}}$$

where M is the total number of particles adhering to the solid surface at the time t, ν is the number of particles in 1 cm^3, D is the coefficient of diffusion. Assuming ν = constant, $\lg M = K + 0.5 \lg t$. Using this equation and assuming that the thickness of the film Δ is directly proportional to the number of adsorbed particles ($\lg \Delta = K_1 + 0.5 \lg t$), the authors obtained a good agreement between the experimental and calculated results. In the choice of optimal conditions for the process, it is necessary to control the velocity of hydrolysis (i.e. the velocity of formation of sol) and the velocity of coagulation, increasing the former and decreasing the latter. At a high velocity of coagulation (a high concentration of copper ammoniacate and at temperatures above 25°C) the velocity of film growth is low. There are 6 figures and 10 references: 8 Soviet and 2 non-Soviet. The reference to an English language publication reads as follows:

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

27393
S/153/61/004/003/003/008
E071/E435

An experimental investigation ...

D.A.Lyon, J.Opt. Soc. America, 33, 434 (1943).

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S.M.Kirova
Kafedra fizicheskoy i kolloidnoy khimii
(Ural Polytechnical Institute imeni S.M.Kirov,
Department of Physical and Colloidal Chemistry)

SUBMITTED: July 6, 1959

Card 4/4

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

SKRYLEV, L.D.; BORISIKHINA, V.I.; MOKRUSHIN, S.G.; Prinimala uchastiye: DAVYDOVA, T.A., studentka

Recovery of mixed ferrocyanides of heavy metals from their hydrosols in colloidal solution by the emulsification method. Part 2: Effect of electrolyte addition. Izv.vys.ucheb.zav.; khim.i khim.tekh 4 no.6:968-970 '61. (MIRA 15:3)

1. Ural'skiy politekhnicheskiy institut imeni Kirova, kafedra fizicheskoy i kolloidnoy khimii.
(Ferrocyanides) (Colloids) (Electrolytes)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKHUSHIN, S.G.; TKACHEV, Yu.D.

Experimental investigations of laminar systems. Part 27: Formation of ultrathin cadmium sulfide layers at the solid - solution interface [with summary in English]. Koll.zhur. 23 no.4:438-441 Jl-Ag '61. (MIRA 14:8)

1. Ural'skiy politekhnicheskiy institut im. S.M. Kirova, Sverdlovsk.
(Cadmium sulfide) (Boundary layer)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

BORISIKHINA, V.I.; SKRYLEV, L.D.; MOKRUSHIN, S.G.

Emulsification method for extracting colloidal mixed uranyl ferrocyanide from its hydrosols. Koll.zhur. 23 no.5:521-523 S-O '61. (MIRA 14:9)

1. Ural'skiy politekhnicheskiy institut, Sverdlovsk.
(Uranyl ferrocyanide)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

BORISIKHINA, V.I.; SKRYLEV, L.D.; MOKRUSHIN, S.G.

Effect of freezing on the stability of gelatinized emulsions stabilized by colloidal mixed copper and iron ferrocyanides. Koll.zhur. 23 no.6:669-671 N-D '61. (MIRA 14:12)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova, Sverdlovsk.
(Emulsions (Chemistry)) (Carbon tetrachloride) (Ferrocyanides)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

SKRYLEV, L.D.; MOKRUSHIN, S.G.; BORISIKHINA, V.I.

Effect of temperature on the process of extracting mixed heavy metal ferrocyanides in dissolved colloidal form from their hydrosols by means of emulsification. Zhur.prikl.khim. 34 no.3: 538-541 Mr '61. (MIRA 14:5)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Ferrocyanides)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

BORISIKHINA, V.I.; MOKRUSHIN, S.G.; SKRYLEV, L.D.

Breaking of gelatinized emulsions with monohydroxy alcohols. Zhur. prikl.khim. 34 no.3:628-631 Mr '61. (MIRA 14:5)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Emulsions) (Alcohols)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

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S/080/61/034/011/004/020
D202/D301

21.4500

AUTHORS: Skrylev, L.D., and Mokrushin, S.G.

TITLE: The extraction of uranium from waste-liquors of chemical works and research laboratories

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 11, 1961, 2403 - 2407

TEXT: A method of extracting uranyl salts from waste-liquors of institutions dealing with uranium, by direct precipitation with potassium ferrocyanide is described. The authors overcame the drawback of this method - the peptization of uranyl ferrocyanides by an excess of $Fe(CN)_6^{4-}$ ions, by the flocculation and extraction of the obtained sol with a foaming agent, such as 1 % gelatine solution. In the first experimental series a pure 0.005 % solution, (with pH 5) of uranyl nitrate was used, from which after a $K_4[Fe(CN)_6]$ addition in the molar ratio of 1:1, a transparent sol was formed 100 Ml of the sol were treated with gelatine solution and an air current was blown through the mixture at a rate of 6000 cm^3/min.,

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

The extraction of uranium from ...

producing a thick foam. These experiments are described in detail. The authors carried out another experimental series with solutions containing such electrolytes as: $Al(NO_3)_3$, $Ba(NO_3)_2$, KNO_3, $NaNO_3$, NaCl, Na_2SO_4, CH_3COONa and CH_3COOH, but do not give details, stating only that the presence of small amounts of these compounds (up to 10 g/l) prevent the peptization of uranyl ferrocyanide. In presence of metals such as Cu, Ni, Co, Mn, Zn, Pb and Cd (up to 1 g/l) it is impossible to separate uranyl ferrocyanide from their ferrocyanides, but that does not prevent their common elimination for the latter are also extracted by the gelatine foam. The authors also mention that higher uranyl ferrocyanide concentrations require larger amounts of gelatine for full extraction. There are 4 figures and 12 references: 11 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: H.B. Weiser, Inorganic Colloid. Chem., N.Y., 3, 305, 1938.

SUBMITTED: January 16, 1961

Card 2/2

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKROSHIN, S.G., prof., doktor khimicheskikh nauk

Laminar systems or thin and ultrathin layers (films) at phase interfaces. Sbor. nauch. trud. Ural. politekh. inst. no.122: 63-72 '61. (MIRA 17:12)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

MOKRUSHIN, S.G., prof., doktor khim. nauk; BORISIKHINA, V.I., otv. red.; VAKHTINA, Ye.F., tekhn. red.

[Problems in the physical chemistry of colloid-disperse systems and surface phenomena] Zadachi po fiziko-khimii kolloido-dispersnykh sistem i poverkhnostnykh iavlenii. Sverdlovsk, Ural'skii politekhn. in-t im. S.M.Kirova. No.5. 1962. 54 p. (MIRA 16:4)
(Colloids) (Surface chemistry)
(Chemistry, Physical and theoretical—Problems, exercises, etc.)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

ZHIDKOVA, L.G.; MOKRUSHIN, S.G.

Kinetics of extraction of the disperse phase from hydrosols.
Izv.vys.ucheb.zav.; khim.i khim.tekh. 5 no.1:91-93 '62.
(MIRA 15:4)

1. Ural'skiy politekhnicheskiy institut imeni Kirova, kafedra fizicheskoy i kolloidnoy khimii.
(Colloids)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135010002-8

S/069/62/024/003/002/006
B110/B138

AUTHORS: Bulatov, N. K., Mokrushin, S. G.

TITLE: Experimental studies of laminar systems. 28. Formation of thin iron hydroxide films on a glass surface

PERIODICAL: Kolloidnyy zhurnal, v. 24, no. 3, 1962,263 - 267

TEXT: The adsorption of colloidal iron hydroxide from hydrosols on glass was studied. Cleaned window glass plates (85·32·2 mm) were put into 0.4 mole/liter $FeCl_3$ solutions with pH = 1.4; 0.9; 0.5, and stirred in a thermostat. Films of a given thickness were obtained by repeated immersion. The optical density was determined from the interference colors of the reflected light. The maximum immersion time after which the film stopped growing depended on the temperature and pH of the initial solution, and were between 8 and 25 min for each operation. From an optical density of ~1700 Å onward, the dependence of the film thickness on the maximum time becomes linear. The increase in film thickness is retarded and the maximum immersion time decreases as the temperature is raised (55 - 90°C). Fast hydrolysis and slow film growth (900 - 1000 Å) were observed at pH = 1.4. An

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